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Tank Farms 1-5 and Carr Point WETLAND SURVEY REPORT



Naval Station Newport
Newport, Rhode Island

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Acronyms and Abbreviations

CWA	Clean Water Act
CFR	Code of Federal Regulations
EA	Environmental Assessment
EPA	Environmental Protection Agency
INRMP	Integrated Natural Resources Management Plan
NEHSTC	New England Hydric Soils Technical Committee
NOAA	National Oceanic and Atmospheric Association
NWI	National Wetlands Inventory
OHWM	Ordinary high water mark
RIDEM	Rhode Island Dept. of Environmental Management
RIWRB	Rhode Island Water Resources Board
TEC	The Environmental Company, Inc.
TF	Tank Farm
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

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CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

This report has been prepared to present the findings of a field survey to investigate and delineate waters of the U.S. at Tank Farms (TFs) 1-5 and Carr Point, Navy facilities that are part of Naval Station Newport, RI. Jurisdictional waters of the U.S. are defined as wetlands or other waters of the U.S. subject to U.S. Army Corps of Engineers (USACE) jurisdiction under Section 404 of the Clean Water Act (Title 33 United States Code). The investigation was conducted on October 19-20 and November 15-21, 2002 by The Environmental Company, Inc (TEC).

1.1.1 Location

Naval Station Newport and the TFs are located along Defense Highway (Burma Road) adjacent to the cities of Newport and Middletown, RI and Narragansett Bay (Figure 1-1).

1.1.2 Background

The areas investigated included five closed fuel TFs on Naval Station property and the Carr Point Recreation Area. This investigation is to support an Environmental Assessment (EA) and any wetland permits for a golf course that may occupy all or parts of TFs 1-4 and Carr Point. TF-5 may be used to relocate the Carr Point recreation facilities.

This report documents the fieldwork performed and identifies the locations and characteristics of wetlands and other waters of the U.S. and their boundaries. Additionally, information within this report is intended for use in support of a Section 404 permit application to the USACE for impacts to wetlands and other waters of the U.S., if required. Additional resource areas identified include perimeter wetlands, riverbank wetlands, and flowing and standing water wetlands, as defined under State of Rhode Island Rules and Regulations Governing the Administration and Enforcement of the Freshwater Wetlands Act (RIDEM 1998).

Section 2 of this report describes the criteria by which identification of wetlands were facilitated. Section 3 describes the specific methodology used in the field investigation. Section 4 of this report provides results and summary and conclusions. Section 5 provides the references. Section 6 provides the names of report preparers.

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Figure 1-1
Location of Tank Farms and Carr Point
Naval Station Newport, RI

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CHAPTER 2

WATERS OF THE U.S. IDENTIFICATION CRITERIA

2.1 JURISDICTIONAL WATERS OF THE U.S.

The Clean Water Act (CWA) of 1972 is the primary federal law that protects the nation's waters, including lakes, rivers, aquifers, and coastal areas. The primary objective of the CWA is to restore and maintain the integrity of the nation's waters. Jurisdictional waters of the U.S. include essentially all surface waters such as all navigable waters and their tributaries, all interstate waters and their tributaries, lakes, and all impoundments of these waters. In addition, wetlands and other special aquatic sites adjacent to jurisdictional waters of the U.S. are also considered jurisdictional waters of the U.S. and are included in the definition under 33 Code of Federal Regulations (CFR) 328.3(a) (1-07). Special aquatic sites are identified by the Environmental Protection Agency (EPA) in 40 CFR Part 230, Section 404(b)(1). The USACE makes decisions on which waters of the U.S. are jurisdictional.

2.1.1 Wetlands

As defined in the 1987 Corps of Engineers Wetland Delineation Manual or 1987 Manual, wetlands are, "...those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstance do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (USACE 1987). The USACE defines normal circumstances as, "...soil and hydrologic conditions that are normally present, without regard to whether the vegetation has been removed." Additionally, wetlands may be inundated to a depth less than 6.6 feet and with rooted emergent vegetation or woody plant species (USACE 1987).

2.1.1.1 Wetland Identification Criteria

Wetlands are identified based on three criteria set forth by the USACE in the 1987 Manual. For an area to be considered a wetland, it must possess hydrophytic vegetation, hydrology, and hydric soil. Specifically, a potential wetland area must: 1) under normal circumstances support a prevalence of hydrophytic vegetation, 2) be inundated or saturated with surface or ground water at a frequency and duration sufficient to support a prevalence of hydrophytic vegetation typically adapted for life in saturated soil conditions, and 3) have a predominance of hydric soil. All three criteria must be present for an area to be identified as a wetland (USACE 1987).

2.1.2 Drainages

The determination that a drainage is a water of the U.S. is based primarily on the presence of an ordinary high water mark (OHWM). The OHWM is defined in 33 CFR 328.3 as follows:

... that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

Other considerations are:

- presence of channel sinuosity;
- undercutting of shrub or tree roots;
- presence of debris jams (twigs, logs, and/or small rocks);

- presence of sediment deposition;
- water flow (perennial or intermittent); and
- notation of the stream as such on a U.S. Geological Survey (USGS) map.

Drainages can be placed into one of three classifications: 1) ephemeral (fleeting flow in response to storm water runoff), 2) intermittent (seasonal flow), or 3) perennial (year round flow).

2.2 RHODE ISLAND WETLAND CRITERIA

Rhode Island has Rules and Regulations Governing the Administration and Enforcement of the Freshwater Wetlands Act (RIDEM 1998). These rules and regulations protect vegetated wetlands and other waters of the U.S., similar to the Clean Water Act protections, although the specific definitions vary. In addition, other wetland areas are protected. The comprehensive definition is as follows:

Freshwater Wetland - A bog, pond, marsh, swamp, area of land within fifty feet (50') of the aforementioned wetland types, flood plain, river bank, river, area(s) subject to flooding, area(s) subject to storm flowage, floodway, flowing body of water, stream, intermittent stream, perimeter wetland, submergent and emergent plant communities, special aquatic sites, and shrub and forested wetland.

Riverbank and perimeter wetlands included in the definition above are defined as follows:

Riverbank Wetland - "that area of land within two hundred feet (200') of the edge of any flowing body of water having a width of ten feet (10') or more, and that area of land within one hundred feet (100') of the edge of any flowing body of water having a width of less than ten feet (10') during normal flow."

Perimeter Wetland - "means a freshwater wetland consisting of the area of land within fifty feet (50') of the edge of any bog, marsh, swamp, or pond as defined by these Rules. For purposes of identification, this area shall be measured horizontally, without regard for topography, from the edge of any bog, marsh, swamp, pond, or wetland complex containing any combination of these wetland types."

2.3 WETLAND AND DEEPWATER AQUATIC HABITAT CLASSIFICATION

Wetlands and deepwater aquatic habitats are classified in a hierarchical system developed for the U.S. Fish and Wildlife Service (USFWS) by Cowardin et al. (1979). For an area to be a wetland, the USFWS only requires that one of the three wetland criteria be present, unlike the USACE which require that all three criteria be present. Therefore, areas designated as wetlands by the USFWS might not be considered jurisdictional wetlands by the USACE. The USFWS system recognizes four major hierarchies of classification (Ecological System, Ecological Subsystem, Class, and Subclass) and includes several modifying terms to further refine the classification. Brief descriptions of each of the systems are summarized here from Cowardin et. al. (1979). Palustrine wetland systems include all non-tidal wetlands dominated by trees, shrubs, persistent and non-persistent emergent vegetation, mosses, and lichens and are commonly referred to as marshes, swamps, bogs, fens, and ponds. Estuarine wetlands include tidal wetlands that are usually partly enclosed by land but have some access to the open ocean and contain ocean water that is at least partly diluted by freshwater runoff. Riverine wetland systems are generally contained within a channel which at least periodically contains moving water or forms a connecting link between two bodies of standing water.

CHAPTER 3

WETLAND IDENTIFICATION METHODOLOGY

3.1 REVIEW OF EXISTING INFORMATION

Prior to the wetlands survey, existing data from a variety of sources were used to help identify any potential wetlands or jurisdictional drainages within the survey area. Sources included:

- Letter report by Mr. Walter Hewitson describing wetland delineations in connection with a proposed sewer line (Hewitson 1993);
- Letter report to Weston and Sampson Engineers, Inc. by Lycott Environmental Research, Inc describing wetland delineations in connection with a proposed sewer line (Lycott 1994).
- CAD files produced for the Upgrade/Improvements to Sanitary Sewer System and construction of a bike path along Defense Highway, undated.
- CAD files for a wetland delineation in connection with the closure of TF 4 completed by Foster Wheeler Corporation, 1996.
- Letter reports to Fuss & O'Neill Inc. by Natural Resource Services Inc. describing wetland delineations at Naval Station Newport (NRS 1997; NRS 1998);
- Naval Station Newport Integrated Natural Resources Management Plan (Berger 2001), which includes USFWS NWI mapping and State of Rhode Island wetland and marine habitat mapping for the Narragansett Bay Project;
- Soil Survey of Rhode Island (USDA 1981); and
- Digital orthophoto for Newport, RI flown April 1997.

3.1.1 Soil Survey

The Rhode Island Soil Survey was reviewed to determine the soil types in the areas being investigated. In general, soils in the vicinity are glacial deposits of till and outwash. However, soils are thin in the region. Rock observed in the area during delineations for this project appears to be primarily phyllite, a partially metamorphosed shale. Specific mapped soil types are provided below for the wetland areas. Descriptions of the soil types from the INRMP (Berger 2001) are provided following the list.

- TF5 (Gomes Brook) – Primarily PmA, NeB in the northwest portion of the TF;
- TF4 (Normans Brook) – Primarily Se, NeB in a small finger away from Normans Brook towards tank #41;
- TF4 North – PmA in L shaped pattern about 700' on each side near Defense Highway and surrounded by NeB;
- TF3 (Lawton Brook) – NeB;
- Central Part of all TFs – UD (udorthents, fill materials); and
- Carr Point – MmA.

Merrimac Sandy Loam (MmA)

Slopes up to 3%, somewhat excessively drained, permeability moderately rapid.

Newport silt loam (NeB)

Slopes 3-8 %, well drained, permeability moderate or moderately rapid in surface and slow or very slow in substratum.

Pittstown silt loam (PmA)

Slopes up to 3%, moderately well drained, permeability moderate in surface and slow in substratum, high seasonal water table.

Stissing silt loam (Se)

Slopes up to 3% but often nearly level, poorly drained, permeability moderate in surface and slow in substratum, high seasonal water table. A recognized hydric soil in Rhode Island (USDA 1981; USDA 1996).

3.1.2 NWI Mapping

Wetlands mapped by the USFWS National Wetland Inventory (NWI) in the project area using the Cowardin et. al. system, as shown in the Station INRMP (Berger 2001), depict the following:

- TF5 (Gomes Brook) – Palustrine scrub-shrub, temporarily flooded (PSSA);
- TF4 (Normans Brook)– Palustrine scrub-shrub, temporarily flooded (PSSA);
- TF4 North – Palustrine scrub-shrub, temporarily flooded (PSSA);
- TF3 (Lawton Brook) – Palustrine, forested, saturated (PFOB);
- TF1 and TF2 - None; and
- Carr Point – None.

3.1.3 Previous Wetland Surveys

Previous wetland delineations have been completed in various areas of the TFs for various projects. In connection with a major sewer system upgrade and construction of a bicycle path, wetland delineations were performed along Defense Highway throughout the area of the TFs in 1993 by Walter Hewitson in accordance with Rhode Island Department of Environmental Management (RIDEM) criteria (Hewitson 1993) with supplemental work in 1994 by Lycott Environmental Research, Inc. (Lycott 1994), in accordance with USACE criteria.

In connection with construction of a bicycle path and for other purposes, wetland delineations of all areas on TFs 1-5 were delineated in 1997 and 1998 by NRS (1997; 1998) with site drawings prepared by Fuss & O'Neill, as shown in the Station INRMP (Berger 2001). These delineations were completed in accordance with RIDEM criteria.

3.2 USACE WETLAND CRITERIA

Wetland delineations were conducted by TEC on October 19-20 and November 15-21, 2002. When potential wetlands were identified, a formal delineation was performed in accordance with criteria outlined in the USACE Wetland Delineation Manual (USACE 1987), best professional judgment, and site conditions present during the field analysis. The New England Wetland Delineation Data Sheet and Supplemental Information were also used in this delineation (USACE 2002).

All areas were investigated using the routine determination method. The routine determination method for such areas requires an initial site observation to determine plant community boundaries and a general

record of all three parameters at these community transition points. All areas were delineated using the routine method for areas less than or equal to five acres (USACE 1987).

In general, an observation point (plot) was established in each vegetation community near the point of transition from wetland to upland. A plot is defined as an area of indefinite shape, approximately 100-1,000 square feet in size, depending on the type of vegetation, that characterizes a certain plant community. A plot will generally be located near the boundary of a suspected wetland area. Detailed observations were recorded on the field data forms. USACE New England District data forms used to document each plot are included as Appendix A. In many cases one plot was established on each side of the boundary, however, if a boundary was clearly marked by topography or hydrophytic vegetation, only one plot may have been used, and in some cases with clear demarcations no plot was established. Once the boundary was established near the plot, additional observations were made in other areas around a particular wetland to establish a boundary. Wetland boundaries were then marked with a series of sequentially numbered plastic flags tied onto trees, shrubs, and/or plants or staked into the ground using flagging.

Methods used to determine the presence or absence of each technical criterion are described below.

3.2.1 Hydrophytic Vegetation

To determine whether hydrophytic vegetation is prevalent in an area, the dominant plant species were identified around the area where the plot was established. Plants were identified using Gleason and Cronquist (1991). Nomenclature is from Gould et al (1998). For this report, qualitative data on plants were collected in accordance with USACE New England District criteria. For each plot evaluated a percent cover or other dominance factor was estimated for all plants and listed on field forms. These values are total aerial cover for the general area surrounding a plot using a radius of approximately five feet for herbs and ground cover, a radius of approximately 15 feet for saplings and shrubs, and a radius of approximately 30 feet for trees and vines. All these were subject to site-specific considerations.

Dominant plants were determined using the USACE 50/20 Rule on relative percent cover (USACE 1987). A plant community dominated by species with an indicator status code of OBL (Obligate Wetland), FACW (Facultative Wetland), and/or FAC (Facultative) (except FAC- which indicates species not typically adapted to anaerobic soil conditions) meet the criteria for hydrophytic vegetation. The wetland indicator status of plants was assigned using the 1988 USFWS list of wetland plants for the northeast U.S. (USFWS 1988).

3.2.2 Wetland Hydrology

To determine whether an area has wetland hydrology, test pits and other representative areas are examined for inundation, soil saturation, a shallow groundwater table, and other hydrologic indicators. Areas that are seasonally inundated and/or saturated to the surface for a consecutive number of days equal to or more than five percent of the growing season meet the criteria for wetland hydrology. The growing season in Rhode Island, using a surrogate of air temperature above 28 degrees F in an average year, or five out of 10 years, as reported in the county soil survey report (USDA 1981), is 176 days. Thus, areas must be inundated/saturated for a minimum of nine days per year. Seasonal changes in groundwater levels and the immediacy of precipitation events must also be evaluated. If wetland hydrology is not present at the time of the site visit, saturation or inundation during the growing season can be inferred from the presence of, but not limited to one of the following primary hydrologic indicators:

- watermarks on vegetation;

- drift lines;
- sediment deposits; and
- wetland drainage patterns.

Secondary indicators include the following:

- oxidized rhizospheres (oxidized root channels) within the upper 12 inches; and
- water-stained leaves.

3.2.3 Hydric Soils

To evaluate the specific characteristics of the soils, test pits were dug within a plot, and the soil color and other characteristics were examined and recorded on USACE data forms. Additional test pits or soil probes between plots and around the perimeter of the wetland were examined to finalize a boundary. Soil colors were used to determine hydric soils. The chroma of a soil was determined using Munsell color charts, which uses an alphanumeric classification system to describe colors (Gretag Macbeth 2000).

Specific hydric soil indicators for New England (NEHSTC 1998) were used if it was deemed to apply to the specific site. General soil color characteristics used to define hydric soils (USACE 1987) were considered; these definitions are as follows: 1) gleyed or low chroma colors - soil with gley colors or soils with a chroma of 1, indicating mineral soils that have been saturated or inundated by water for all or substantial periods of the growing season; or 2) low chroma in combination with redoximorphic features (e.g. mottles) - brightly colored redoximorphic features in soil with a low chroma matrix (2 or less), indicating seasonally saturated or inundated wetlands with fluctuating water levels. Additional information concerning the hydric characteristics of soil as described in Vepraskis (1995) were also considered.

3.3 RIDEM WETLAND CRITERIA

Perimeter wetlands were mapped using a setback of 50 feet from all USACE defined wetland boundaries on U.S. Navy property.

Riverbank wetland edges were mapped using the setbacks from flowing bodies of water specified by RIDEM regulations (RIDEM 1998). Setbacks were based on the average width of streams within a given TF.

3.4 DRAINAGE CRITERIA

Drainages were identified and mapped using the OHWM. Widths of drainage channels were measured, generally every 50-100 feet, and these measurements were used to determine an average width for a longer segment. The average widths were then used in preparing the figures in this report and for purposes of calculating acreages of these waters of the U.S.

3.5 FLAGGING OF DELINEATED AREAS

All areas delineated were flagged in the field with numbered points and locations were recorded with sub-meter GPS accuracy using a Trimble Pro XR GPS with Asset Surveyor.

CHAPTER 4

FINDINGS

4.1 SITE CONDITIONS

Much of the project area surveyed can be characterized as highly disturbed. Forests no longer cover most of these sites. Vegetation at the TF sites was regularly maintained until they were closed, approximately 5 to 10 years ago. Since that time, no maintenance has occurred and there has been additional site disturbance during remediation at TF4 and TF5. Invasive plant species occupy large areas within each TF, but are particularly high in frequency at the perimeter of wetlands where moisture is abundant. These areas are completely or nearly completely dominated by multiflora rose (*Rosa multiflora*), oriental bittersweet (*Celastrus orbiculatus*), non-native honeysuckle (*Lonicera* sp.), and non-native autumn olive (*Elaeagnus umbellata*).

The fenced areas of the TFs and Carr Point were surveyed for Waters of the U.S. Due to the overgrown nature of these sites, not all areas could be directly inspected. All available wetland mapping and information sources for these areas, as listed in Section 3.1, were evaluated to determine if there was the potential for wetlands to occur. Based on this information, all areas with the potential for wetlands to occur were directly inspected.

Rhode Island has been under a drought "watch" or "warning" phase since February of 2002 (RIWRB 2002). However, according to NOAA (2002), rainfall from May to October 2002 was close to normal for the entire southern New England area. NOAA reports that precipitation totals tended to be above normal from November with Newport, RI reporting 5.01 inches for the month. On November 13, during the wetland delineation field work, a significant amount of rain fell. This resulted in saturated or nearly saturated soils in all areas in or near wetlands.

4.2 PROJECT AREA RESULTS

Maps showing all jurisdictional wetlands and waters of the U.S. delineated by TEC within the TFs and at Carr Point are shown in Figures 4-1 through 4-6. Table 4-1 lists acreages of all the wetlands and waters delineated on the sites within the facility fencelines. Waters of the U.S. between the true facility boundary and fencelines were not delineated nor accounted for in the acreages listed.

For purposes of the following discussion, waters of the U.S. are referenced separately from wetlands for ease of discussion. It is understood that wetlands are a category of waters of the U.S. All field data forms are provided in Appendix A. Photographs of the sites are provided in Appendix B. Widths of defined segments of streams or drainages that were used to calculate acreages of waters of the U.S. are provided in Appendix C. Each defined stream or drainage segment width in Appendix C is the average of multiple field measurements.

4.2.1 Tank Farm 5, Gomes Brook

Gomes Brook runs from southeast to northwest along the edge of the site. As it approaches the northwest boundary of the site it goes under a large dam that apparently functioned as a roadway at one time.

4.2.1.1 Wetlands

Wetlands are not continuous along Gomes Brook due to natural and man-made conditions. To the southeast and upstream, Gomes Brook enters the facility outside the fenceline. Bordering this area of the stream is wetland GB-WET-1 (Figure 4-1). Two wetland plots were established in this wetland. This

wetland is a broad, flat area with cattail marsh dominated by *Typha latifolia*, and with the wetland edge to the southwest dominated northern arrowwood (*Viburnum dentatum* var. *lucidum*) poison ivy (*Toxicodendron radicans*), and red maple (*Acer rubrum*). At the upland-wetland boundary is a stand of Norway spruce. Wetland drainage patterns were evident near the wetland boundary. Soils at the boundary of this wetland did not show strong hydric indicators due to the presence of abundant, shallow decaying phyllite rock fragments that strongly influence the soil color and other properties. Soils in the wetland were mapped part NeB (near the stream) and part PmA (away from the stream).

Table 4-1. Wetlands and Other Waters of the U.S. on Tank Farms 1-5 and Carr Point

<i>Water of the U.S. Name</i>	<i>Acreage</i>	<i>Type, USFWS Classification, Notes</i>
Tank Farm 5		
GB-WET-1	0.647	Wetland, PEME, PSSE
GB-WET-2	0.064	Wetland, PEME, PSSE
GB-WET-3	2.00	Wetland, PEMB, PEME, PSSE
GB-WET-4	0.447	Wetland, PSSE
GB-WATER-1	0.127	Drainage, perennial
GB-WATER-2	0.008	Drainage, intermittent
GB-WATER-3	0.014	Drainage, intermittent
TF5c-WET-1	0.242	Wetland, PEMCx; isolated wetland
TF5c-WET-2	0.110	Wetland, PEMEx; isolated wetland
TF5c-WET-3	0.014	Wetland, PEMEx; isolated wetland
Subtotal	3.673	
Tank Farm 4		
TF4c-WET-1	1.44	Wetland, PEMCx
TF4c-WET-2	0.065	Wetland, PEMEx; isolated wetland
NB-WET-1	2.79	Wetland, PEME, PSSE
NB-WATER-1	0.191	Drainage, perennial
NB-WATER-2	0.013	Drainage, intermittent
NB-WATER-3	0.181	Drainage, ephemeral, possibly excavated
NB-WATER-4	0.008	Drainage, ephemeral
TF4n-WET-1	7.91	Wetland, PSSE
TF4n-WATER-1	0.026	Drainage, intermittent
TF4n-WATER-2	0.027	Drainage, ephemeral
Subtotal	12.651	
Tank Farm 3		
LB-WET-1	4.99	Wetland, PEMB, PSSB
LB-WATER-1	0.223	Drainage, perennial
Subtotal	5.213	
Carr Point		
CP-WET-1	0.441	Wetland, PEME
CP-WET-2	0.099	Wetland, PSSE
CP-WET-3	0.036	Wetland, PSSE
Subtotal	0.576	
Grand Total	22.113	
Notes: P-palustrine, EM-emergent, SS-scrub/shrub, B-saturated, C-seasonally flooded, E-seasonally flooded/saturated, x-excavated.		

Moving downstream, the next wetland (GB-WET-2) is a small wetland on the northeast side of the channel of Gomes Brook with a clear topographic boundary at the toe of the slope (Figure 4-1). No delineation data forms were prepared specifically for this small area. This wetland appears to obtain some water from bank seepage. The wetland is part emergent, containing buttercup (*Ranunculus* sp.; not identified to species due to lack of flowers or fruit) and sensitive fern (*Onoclea sensibilis*), and part scrub-shrub with northern arrowwood, multiflora rose (*Rosa multiflora*), and poison ivy. Soils were clearly hydric in this wetland and are mapped NeB in this wetland. Downstream of this wetland appears to be the remnants of an old dam. Currently there are numerous concrete pipes that channel water through the area and a small drop in the stream bed of about 10 feet.

Further downstream is GB-WET-3 (Figure 4-1). This wetland occurs along both sides of Gomes Brook and incorporates parts of two drainages that enter from the northeast. A total of four plots were established in this wetland, two on either side of the channel, to collect data for delineation data forms. On the northeast side of the channel was a combination of emergent and scrub-shrub wetlands. Emergent wetland areas appear to be at least partially fed by seepage from banks. These areas were dominated by the unidentified buttercup seen abundantly along Gomes Brook, water cress (*Rorippa nasturtium-aquaticum*), mint (*Mentha* sp.), skunk cabbage (*Symplocarpus foetidus*), with marsh rose (*Rosa palustris*), multiflora rose, and northern arrowwood on the edges. Scrub-shrub areas were typically dominated by northern arrowwood, pussy willow (*Salix discolor*), with multiflora rose the dominant plant near the wetland boundaries. The hydrology of these areas appeared to be influenced primarily by Gomes Brook and the two smaller drainages entering it. The drainage furthest west was braided and scrub-shrub wetland occurred throughout the braided area. Soils on the northeast side of the channel were generally clearly hydric, although some areas of shallow phyllite masked the hydric characteristic. Soils were mapped PmA near the channel and NeB further out from the channel.

On the southwest side of Gomes Brook in wetland GB-WET-3, scrub-shrub wetlands along the channel were similar to those across the channel. There is also a large "arm" of wetland that extends out away from the channel on this side. It is flat with very shallow slope, extending to, and not clearly defined at the floodplain along Gomes Brook. The hydrology source for this wetland may be shallow groundwater. This wetland is a mix of emergent and scrub-shrub wetland, although predominantly scrub-shrub. Dominant vegetation in this area was sensitive fern, marsh fern (*Thelypteris palustris*), poison ivy, and northern arrowwood. Near the intersection of this arm and the floodplain boundary horsetail (*Equisetum* sp.) was abundant. Soils in this wetland arm are similar to the soil description for the mapped PmA soils in this area (USDA 1981) with redox concentrations immediately below the A horizon. The redox concentrations were somewhat sporadic in soils of this area, but the strongly hydrophytic vegetation indicated that this area should be delineated as a wetland.

Moving downstream below the major dam on Gomes Brook is wetland GB-WET-4 (Figure 4-1). In this area the wetland boundaries are clearly demarcated by the topography and vegetation. No delineation data forms were prepared specifically for this area. Vegetation included the unidentified buttercup, bristly dewberry (*Rubus hispids*), rough goldenrod (*Solidago rugosa*), elderberry (*Sambucus canadensis*), northern arrowwood, pussy willow, weeping willow (*Salix babylonica*), red maple, highbush blueberry (*Vaccinium corymbosum*), speckled alder (*Alnus incana*), and multiflora rose. Soils indicated strong hydric characteristics. They were mapped PmA in this area.

4.2.1.2 Drainages

Gomes Brook (GB-WATER-1), a perennial stream, is the major drainage at TF5 (Figure 4-1). Two small drainages (GB-WATER-2 and GB-WATER-3), both probably intermittent, enter from the northeast and

discharge to Gomes Brook. Both of these drainages had water in them at the time of the field delineation. GB-WATER-2 is interrupted by a segment of wetland (vegetated, very shallow channel).

4.2.2 Tank Farm 5, Central

4.2.2.1 Wetlands

TF5 contains several small, isolated wetlands in the interior of the site. The interior of the site consists entirely of disturbed ground where large underground tanks were installed. Soils in and around all these wetlands contained much phyllite gravel and sometimes cobble, dominating the texture and characteristics of the soil. TF5c-WET-1, is apparently the result of soil subsidence after the implosion and filling of one of the underground tanks (Figure 4-1). This wetland contained standing water and is dominated by cattail and Canada rush (*Juncus canadensis*). Soils in and around this wetland were clearly disturbed but there did appear to be some gley color developing. TF5c-WET-2 had no standing water but had a zone of saturated soil near the surface (Figure 4-1). This wetland is in a flat area where drainage may never have been adequate or where some prior excavation may have occurred. Vegetation was dominated by soft rush and pink knotweed (*Polygonum pensylvanicum*). At one end of this wetland were shrubs dominated by northern arrowwood. Redoximorphic concentrations were present. TF5c-WET-3 is a small wetland contained within a broad swale (Figure 4-1). This swale may have been recently created during closure activities at the site. No saturated soil was observed in this area but there did appear to be wetland drainage patterns. Vegetation was dominated by soft rush and wool grass (*Scirpus cyperinus*). Redoximorphic concentrations were present.

4.2.2.2 Drainages

No drainages were present in the interior of TF5.

4.2.3 Tank Farm 4, Central and East

4.2.3.1 Wetlands

Wetland TF4c-WET-1 is an elongated, primarily emergent wetland, part of which may have been created or modified by excavation activities on the site (Figure 4-2). Evidence that it was partially created or modified through excavation is the well-defined bank (2-3 feet high) all along the southern edge of the wetland. The northern end of the wetland is scrub-shrub (and contains one small area of forested wetland) and appears to be a more natural wetland. Five wetland plots were established to aid in the delineation of this wetland. The source of water for this wetland appears to be primarily surface runoff. Wetland hydrology was noted primarily through wetland drainage patterns. Vegetation was dominated by soft rush, rough goldenrod, path rush (*Juncus tenuis*) and slender-leaved goldenrod (*Euthamia tenuifolia*). Soils in this wetland contained much phyllite gravel and cobble, dominating the texture and characteristics of the soil and preventing strong hydric characteristic development. Hydric characteristics may also be lacking due to recent soil disturbing activities. Soils are mapped as udorthents – urban land (UD) which consists of fill.

TF4c-WET-2 is a small wetland complex that has apparently been created by the subsidence of soils after implosion and filling of one of the tank holes (Figure 4-3). These wetlands were clearly outlined by standing water and vegetation, including soft rush and cattail. No wetland plots were established for this small wetland.

4.2.3.2 Drainages

Drainage NB-WATER-2 extends along the southern and eastern boundaries of TF4 and eventually discharges to Norman's Brook. This water of the U.S. is described in the following section.

4.2.4 Tank Farm 4, Normans Brook

4.2.4.1 Wetlands

Norman's Brook, in the southwest corner of TF4, has an associated wetland (NB-WET-1) that occurs on both sides of the channel (Figure 4-2). Five wetland plots were established in this wetland to collect data for delineation data forms. The source of water for these wetlands appears to be a combination of both surface water sheet flow from uplands, flooding from stream flow, and groundwater discharge. A spring is located in one area to the east of the channel, near the middle surface drainage shown in Figure 4-2. An old concrete wall is located in the area of this spring and may have been used to control or enhance its flow characteristics.

This wetland was almost exclusively a scrub-shrub wetland dominated by speckled alder, northern arrowwood, and multiflora rose, with a few small areas dominated by reed canary grass (*Phalaris arundinacea*) or giant reed (*Phragmites australis*).

Soils at the boundary of this wetland did not show strong hydric indicators due to the presence of abundant, shallow decaying phyllite rock fragments that strongly influence the soil color and other properties. Especially on the west side of the channel, on both sides of the wetland-upland boundary, soil color was a very uniform gray color (gley1 3/10Y) throughout the soil profile, including immediately beneath the O horizon. This color is apparently due to the weathering of the phyllite rock that is near the soil surface and which is abundant near all of the boundaries of this wetland. Soils in the wetland are mapped Stissing silt loam (Se), a recognized hydric soil in Rhode Island (USDA 1981; USDA 1996).

4.2.4.2 Drainages

Norman's Brook (NB-WATER-1), a perennial stream, is the major drainage in the southern part of TF4 (Figure 4-2). Three tributaries that enter from the east were delineated. The middle tributary, NB-WATER-2, is an intermittent drainage extending a short distance into the interior of TF4 (Figure 4-2). The channel no longer had an OHWM as it approached the wetland. No water was present in this channel at the time of the field delineation. The eastern-most tributary (NB-WATER-3), the long ephemeral drainage extending along the eastern and southern boundaries of the facility, appears to have been dug at some point, based on the observed straightness of the channel and the built-up banks and steep sides in places (Figures 4-2, 4-3). It may have been constructed when the TF was built to improve drainage from the site. No water was present in this channel at the time of the field delineation. The western-most tributary (NB-WATER-4) receives drainage from the wetland in the central part of TF4 that is described in the previous section of this report (Figure 4-2). In some places this ephemeral drainage is somewhat indistinct and the OHWM is no longer present where it approaches the wetland boundary. No water was present in this channel at the time of the field delineation.

4.2.5 Tank Farm 4, North

4.2.5.1 Wetlands

A scrub-shrub wetland at the north end of TF4 (TF4n-WET-1) occupies a large area to the northeast of the access road and extends north along the mowed corridor of Defense Highway (Figure 4-4). Eleven wetland plots were established in this wetland to collect data for delineation data forms. The source of

water for this area appears to be a combination of surface drainage and groundwater seepage. An area of ponded water on adjacent property, near the north corner of TF4, is shown on the soil survey maps (USDA 1981). Throughout the interior wetland area evidence of wetland hydrology was wetland drainage patterns. In most areas along Defense Highway delineated as wetlands, soils were moist from seepage and possessed ruts from times of the year when surface soils were saturated, or at least very wet. During field work for this investigation, these soils were very moist but were not saturated within 24 inches of the surface.

Vegetation in the scrub-shrub wetland was dominated by high-bush blueberry (*Vaccinium corymbosum*), northern arrowwood, winterberry (*Ilex verticillata*) and red maple, with multiflora rose abundant on the edges. Just on the upland side of the wetland, the vegetation consisted of multiflora rose, honeysuckle, bittersweet, with a light canopy of black locust (*Robinia pseudoacacia*) and black cherry (*Prunus serotina*).

Soils in this wetland correspond well with the soil description for Newport silt loam (NeB) in the soil survey (USDA 1981). Redox concentrations were very evident in the light-colored matrix within the B horizon of this soil.

4.2.5.2 Drainages

One drainage (TF4n-WATER-1) was delineated which originates within wetland TF4 north (Figure 4-4). Outside the wetland it discharges to the ditch beside Defense Highway. Because it receives drainage from a wetland this drainage was delineated as a water of the U.S. beyond the wetland boundary, across Defense Highway and into Carr Point to the location where it is piped underground for discharge to Narragansett Bay.

TF4n-WATER-2 is found parallel to Defense Highway on its eastern side, then crosses under it and the railroad tracks and flows underground through pipes straight to Narragansett Bay (Figure 4-4). This ephemeral waters of the U.S. is a ditch of Defense Highway that collects drainage from surface runoff and seepage from wetland TF4n-WET-1.

4.2.6 Tank Farm 3

4.2.6.1 Wetlands

A large wetland associated with Lawton Brook (LB-WET-1) was delineated (Figure 4-5). This wetland is in the flat-bottomed basin of an old reservoir. This reservoir is shown on the soil survey map (USDA 1981) and in the figures within the base INRMP (Berger 2001), but large shrubs present within the basin indicate that it has been 10 plus years since this reservoir was drained. The wetland boundaries throughout this wetland are clearly indicated by the toe of steep slopes. Four wetland plots were established to collect data for delineation data forms. Lawton Brook splits and in some areas is a braided channel as it flows through wetlands in the flat bottom of the valley (Figure 4-5).

Vegetation within the wetland was dominated by common reed in the northwestern third of the wetland. Moving upstream the common reed dominated emergent wetland gradually shifted to a scrub-shrub wetland dominated by willows (*Salix* spp.) and speckled alder. Edges of the wetland also contained northern arrowwood, spicebush (*Lindera benzoin*), yellow birch (*Betula alleghaniensis*), and multiflora rose.

Soils within the wetland were gleyed or light in color near the surface with prominent redox concentrations. Soils just outside the wetland were exhibited a profile very similar to that described for

NeB soils in the soil survey (USDA 1981) or they contained large amounts of phyllite gravel and cobble near the surface.

4.2.6.2 Drainages

As mentioned above, Lawton Brook (LB-WATER-1) splits and is a braided channel in some areas as it flows through wetlands in the flat bottom of the valley (Figure 4-5). Water levels flowing through the channel are controlled by releases from Lawton Valley Reservoir located about a half-mile upstream of the facility boundary. During the field delineations stream flow was observed to vary widely throughout the day. After the stream channel splits into two branches, each branch was estimated as having an average channel width of four feet.

4.2.7 Tank Farms 1 and 2

No waters of the U.S. were delineated on TFs 1 or 2.

4.2.8 Carr Point

4.2.8.1 Wetlands

Carr Point contains several small linear wetlands. Two wetland plots were established in one wetland to collect data for delineation data forms. Wetland CP-WET-1 is an emergent wetland along a regularly mowed powerline corridor (Figure 4-6). In some areas there may previously have been some excavation or berms created along the powerline corridor because there are banks on both sides of the corridor. As a result, the limits of wetland CP-WET-1 correspond closely with the maintained powerline corridor. The source of water appears to be seepage. Although soils were not saturated within the top 20 inches, ruts present in this area indicate that soil is very wet or saturated at some times. Vegetation within the powerline is closely mowed, thus not representative of its natural state, although soft rush was typically a dominant. Just outside the mowed area of the powerline, sweet pepperbush (*Clethra alnifolia*), northern arrowwood, high-bush blueberry and in certain areas, small amounts of purple loosestrife (*Lythrum salicaria*) were present. At the upland edge were staghorn sumac (*Rhus typhina*) and autumn olive. Soils exhibited moderate hydric characteristics, primarily redox concentrations in the A and B horizons. Soils in the Carr Point area are mapped Merrimac sandy loam (MmA) (USDA 1981).

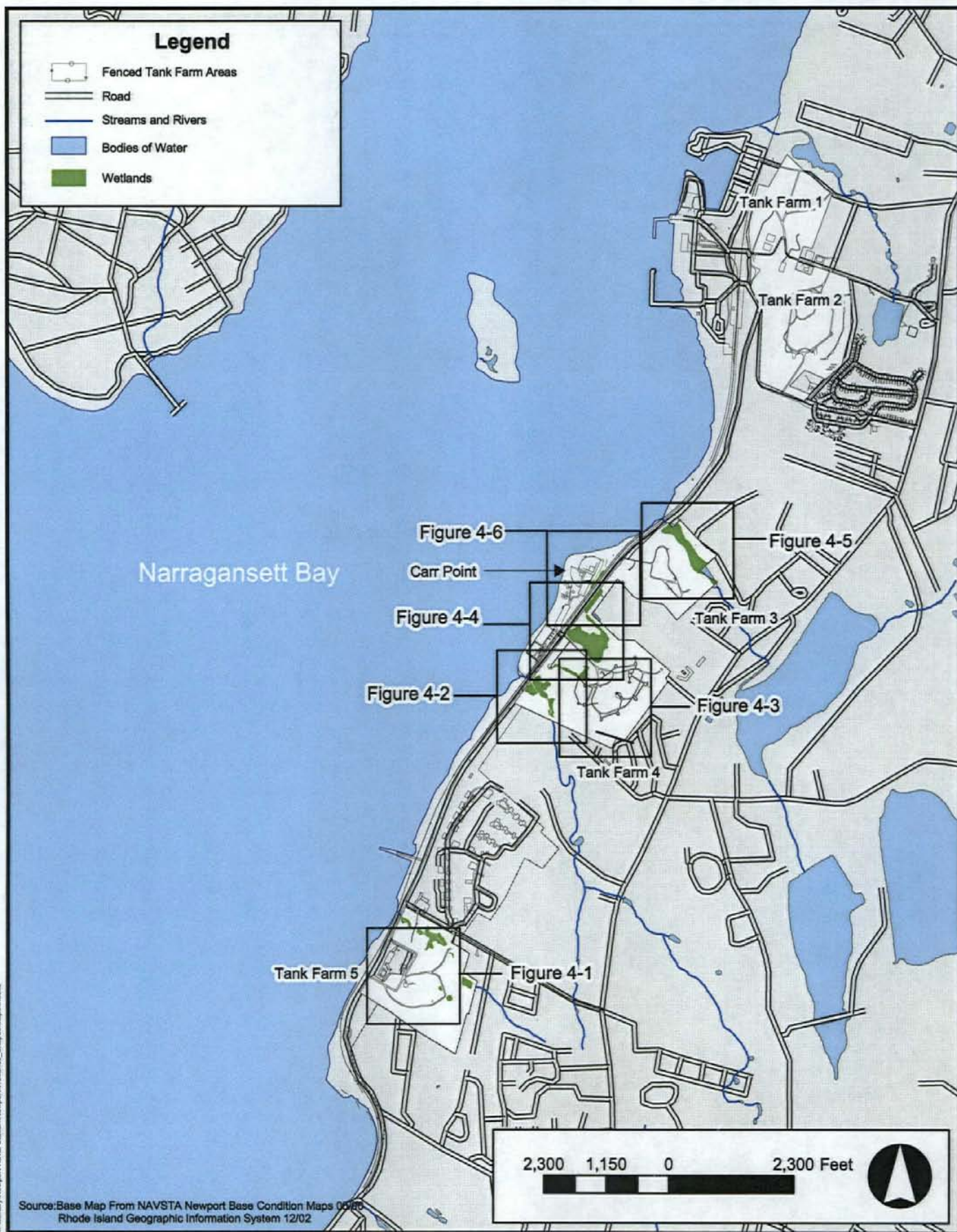
Wetland CP-WET-2 is a small linear wetland associated with a vegetated drainage swale at the base of the slope running partly along the edge of the powerline corridor (Figure 4-6). The upper part of this drainage swale was in a mowed grass area and the lower part was scrub-shrub dominated by northern arrowwood and pussy willow. Soils exhibited moderate hydric characteristics, primarily redox concentrations.

Wetland CP-WET-3 was small linear wetland associated with a vegetated drainage (Figure 4-6). This scrub-shrub wetland started at the edge of the powerline corridor and angled between the powerline and wetland CP-WET-2. Vegetation was dominated by northern arrowwood, pussy willow, and rough goldenrod. Soils exhibited moderate hydric characteristics, primarily redox concentrations.

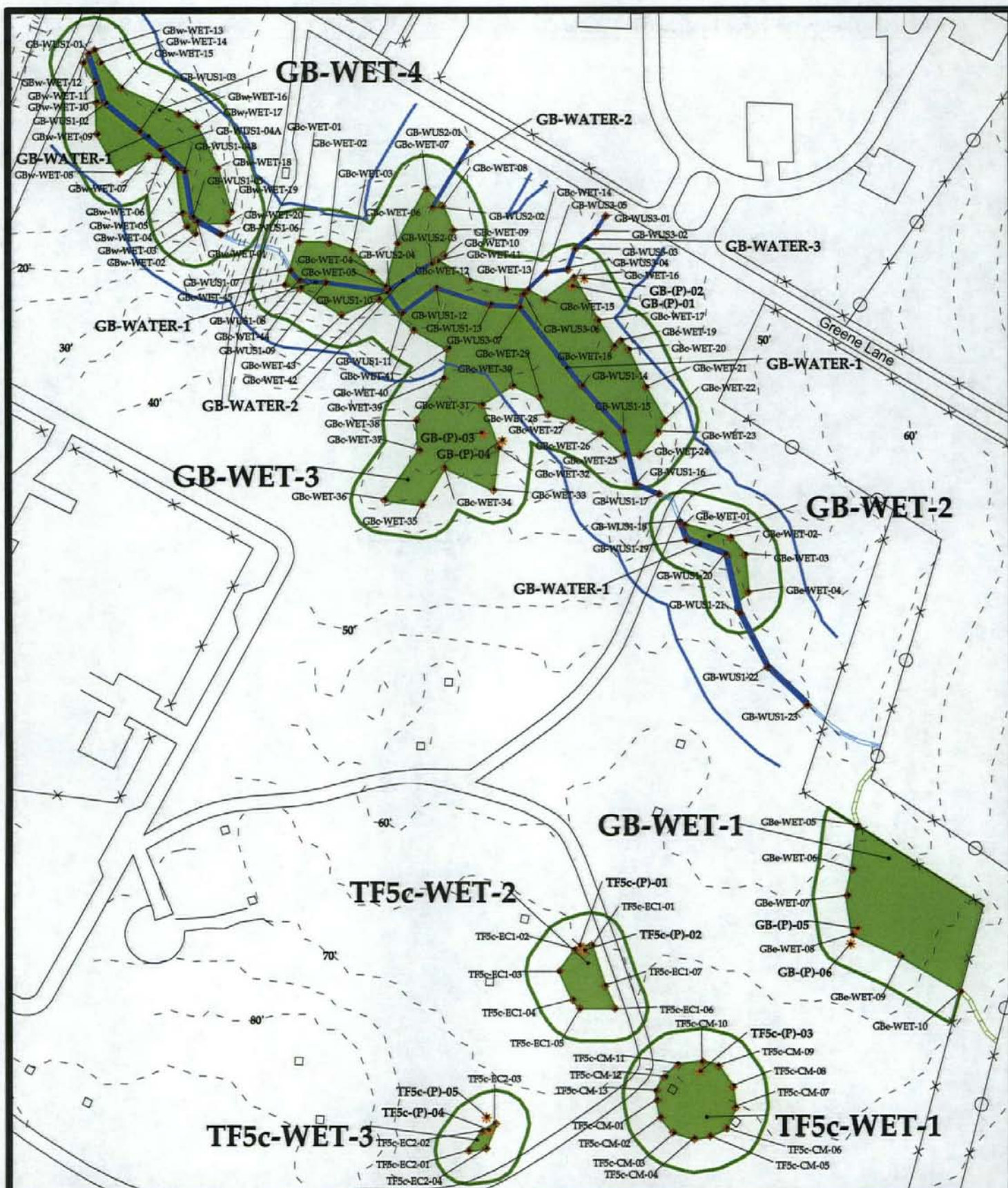
A wooded scrub-shrub habitat exists beyond the northern boundary of CP-WET-2 and CP-WET-3 (defined by an access road which connects the recreation area to the powerline corridor). See Figure 4-6 for additional detail.

4.2.8.2 Drainages

No unvegetated drainages were delineated in this area. Note the limits of the area evaluated for waters of the U.S. on Figure 4-6. The drainage emanating from wetland TF4 north and crossing into Carr Point is discussed in Section 4.2.5 of this report.



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Legend

- | | | | |
|--|-----------------------------|--|---------------------------|
| | Plot ID | | Wetlands Boundary |
| | GPS Data Point | | 50' Perimeter Wetlands |
| | Estimated Waters Alignment | | 100' Riverbank Wetlands |
| | Estimated Wetlands Boundary | | Topographic Lines |
| | Waters of the U.S. | | Roads, Fences, Boundaries |

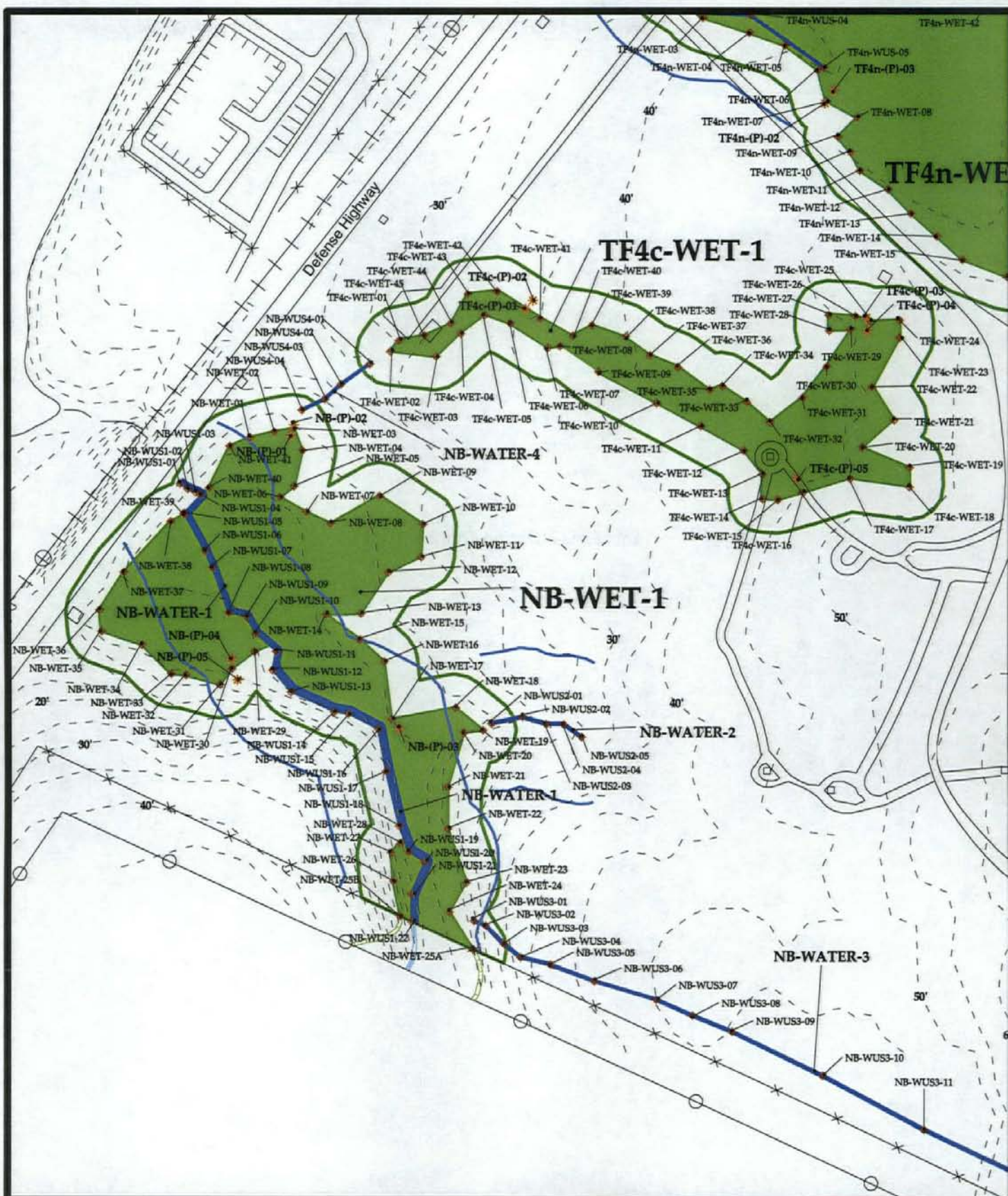
FIGURE 4-1

Delineated Wetlands and Waters of the U.S., Tank Farm 5 (Gomes Brook), Naval Station Newport, RI

100 0 100 200 300 Feet



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Legend

- | | | | |
|--|-----------------------------|--|---------------------------|
| | Plot ID | | Wetlands Boundary |
| | GPS Data Point | | 50' Perimeter Wetlands |
| | Estimated Waters Alignment | | 100' Riverbank Wetlands |
| | Estimated Wetlands Boundary | | Topographic Lines |
| | Waters of the U.S. | | Roads, Fences, Boundaries |

FIGURE 4-2

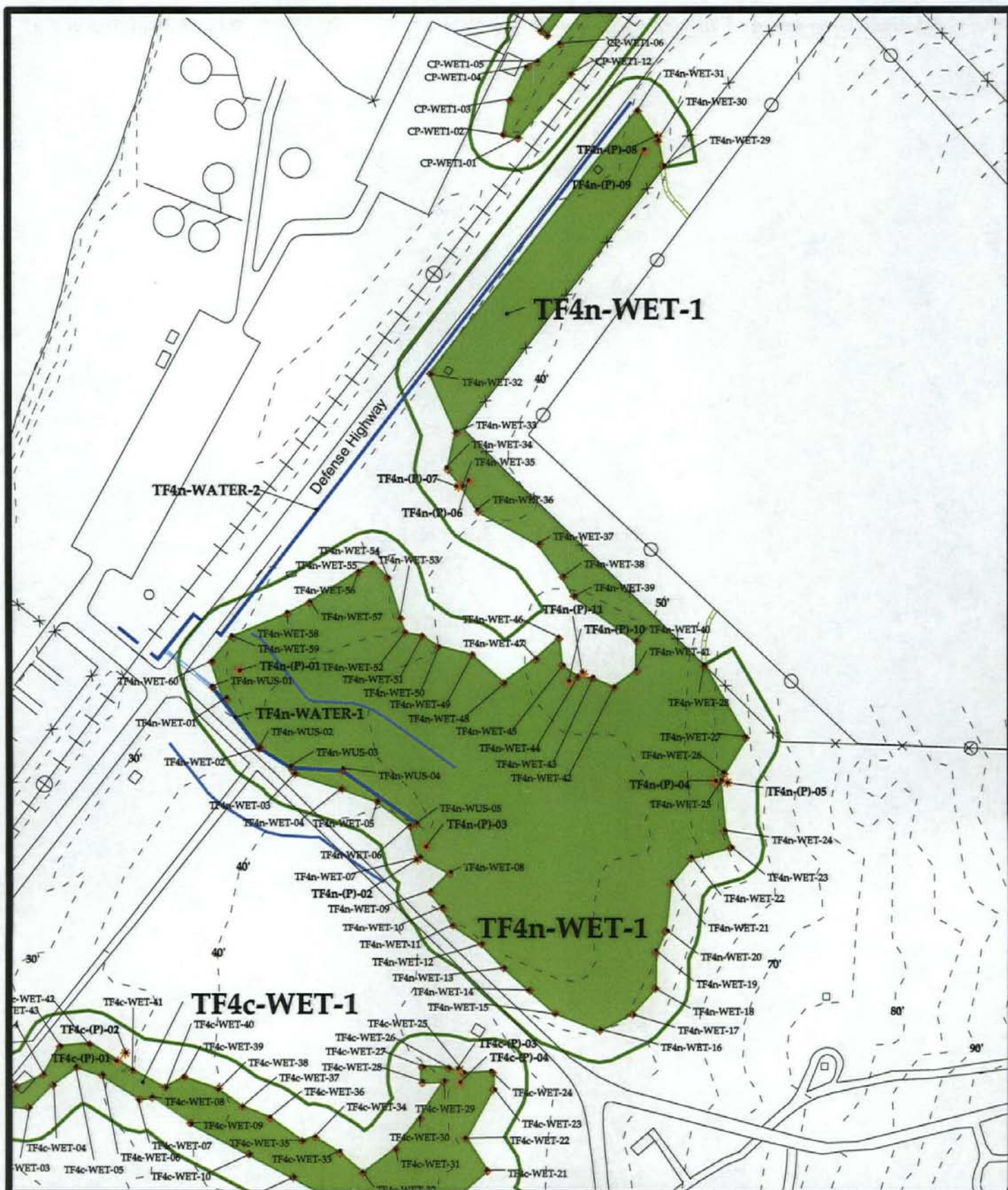
Delineated Wetlands and Waters of the U.S., Tank Farm 4 (Norman's Brook), Naval Station Newport, RI

100 0 100 200 300 Feet



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Legend

- | | | | |
|--|-----------------------------|--|---------------------------|
| | Plot ID | | Wetlands Boundary |
| | GPS Data Point | | 50' Perimeter Wetlands |
| | Estimated Waters Alignment | | 100' Riverbank Wetlands |
| | Estimated Wetlands Boundary | | Topographic Lines |
| | Waters of the U.S. | | Roads, Fences, Boundaries |

FIGURE 4-4

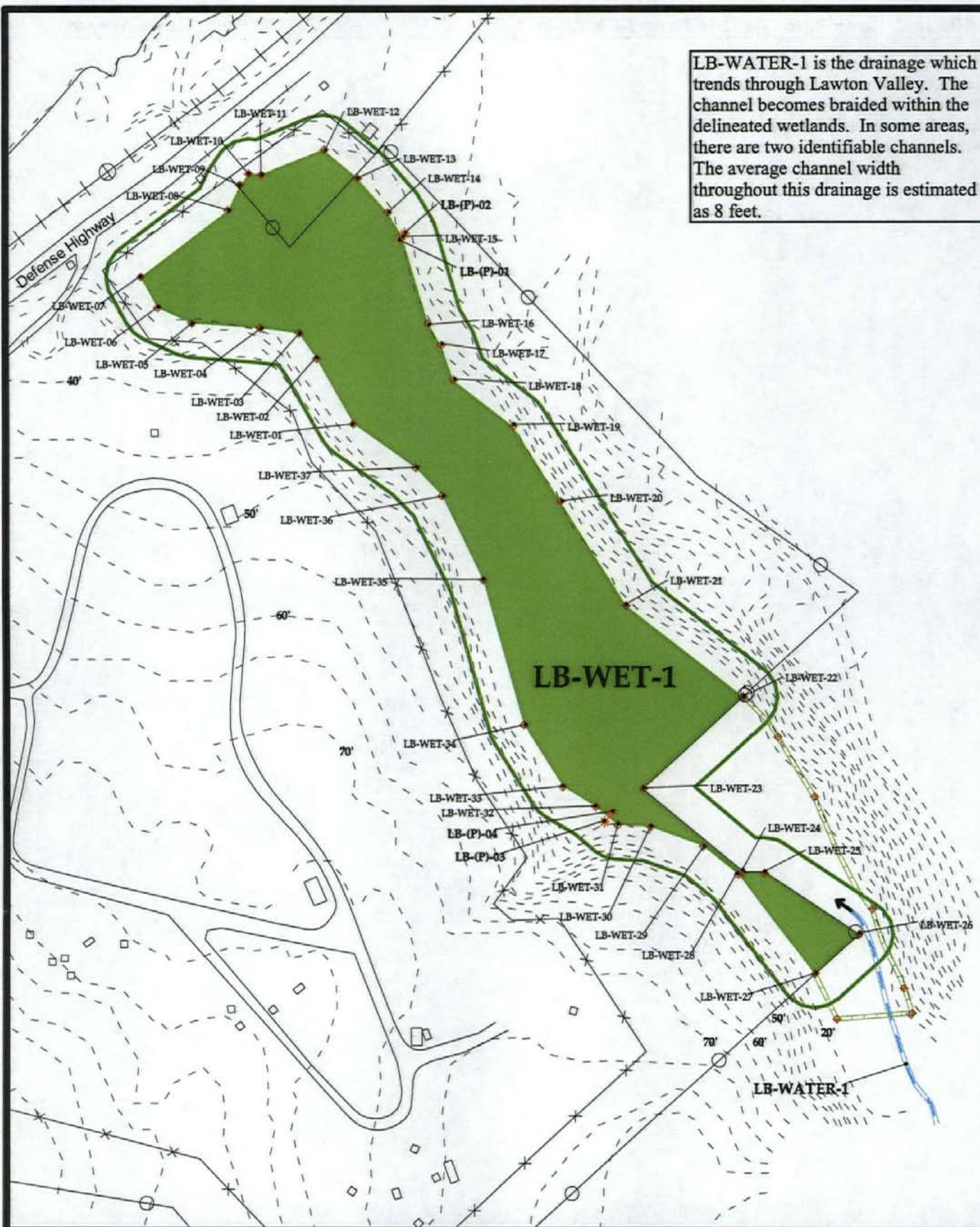
Delineated Wetlands and Waters of the U.S., Tank Farm 4 North, Naval Station Newport, RI

100 0 100 200 300 Feet



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LB-WATER-1 is the drainage which trends through Lawton Valley. The channel becomes braided within the delineated wetlands. In some areas, there are two identifiable channels. The average channel width throughout this drainage is estimated as 8 feet.

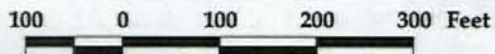


Legend

- | | | | |
|---|-----------------------------|---|---------------------------|
|  | Plot ID |  | Wetlands Boundary |
|  | GPS Data Point |  | 50' Perimeter Wetlands |
|  | Estimated Waters Alignment |  | 100' Riverbank Wetlands |
|  | Estimated Wetlands Boundary |  | Topographic Lines |
|  | Waters of the U.S. |  | Roads, Fences, Boundaries |

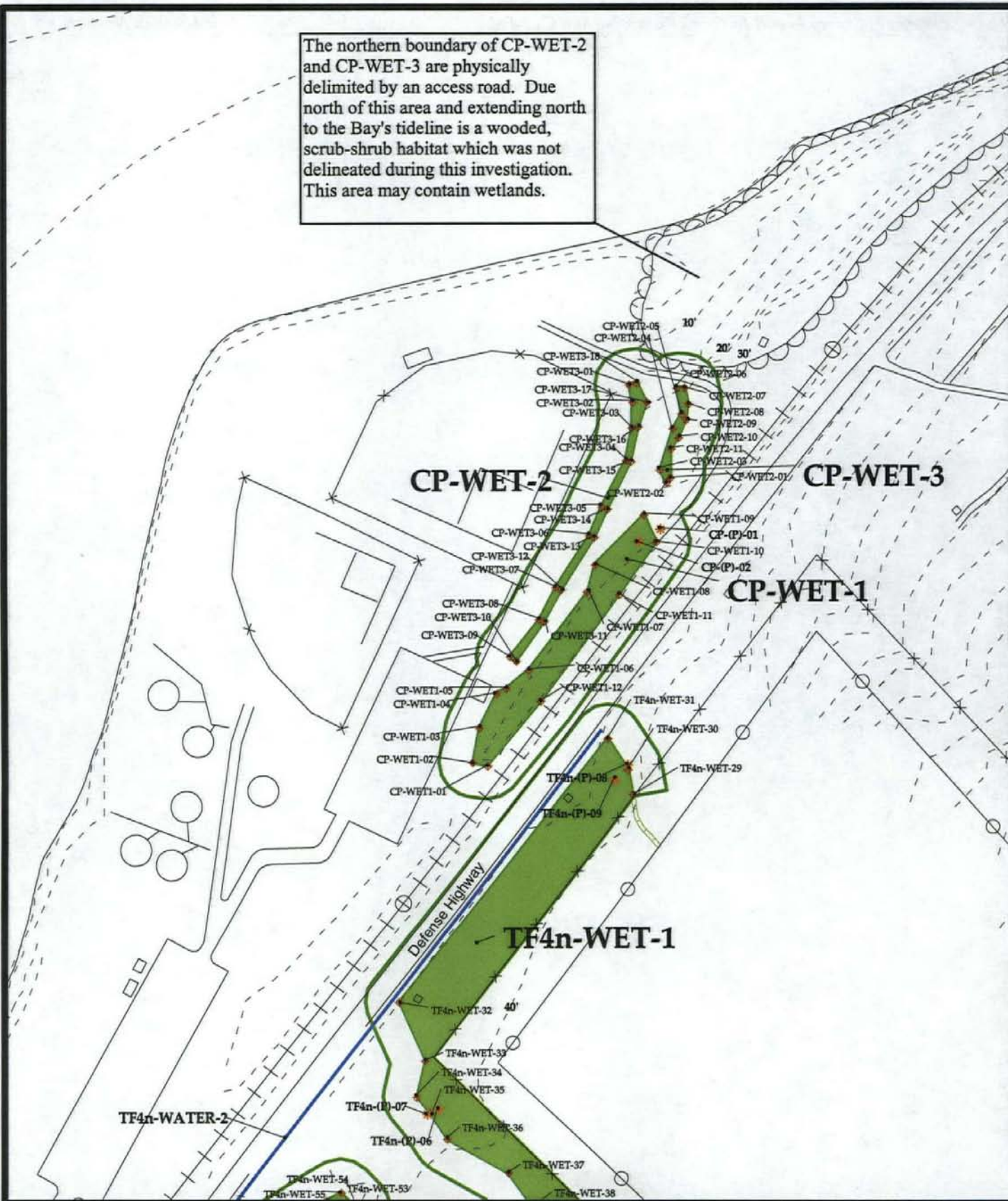
FIGURE 4-5

Delineated Wetlands and Waters of the U.S., Tank Farm 3 (Lawton Brook), Naval Station Newport, RI



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The northern boundary of CP-WET-2 and CP-WET-3 are physically delimited by an access road. Due north of this area and extending north to the Bay's tideline is a wooded, scrub-shrub habitat which was not delineated during this investigation. This area may contain wetlands.



Legend

	Plot ID		Wetlands Boundary
	GPS Data Point		50' Perimeter Wetlands
	Estimated Waters Alignment		100' Riverbank Wetlands
	Estimated Wetlands Boundary		Topographic Lines
	Waters of the U.S.		Roads, Fences, Boundaries

FIGURE 4-6
Delineated Wetlands and Waters of the U.S.,
Carr Point, Naval Station Newport, RI

100 0 100 200 300 Feet



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CHAPTER 5

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CHAPTER 6

PREPARERS

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APPENDIX A
WETLAND DATA FORMS

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PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: N/A

PLOT: GB-(P)-01

DELINEATOR(S): G. METZLER (TEC), M. NARCHI (TEC)

DATE: Nov 13, 2002

Wetland

Location: Northside of Gomes Brook

VEGETATION

STRATUM AND SPECIES	DOMINANCE RATIO	PERCENT DOMINANCE	D O M	NWI STATUS
<u>Trees</u>				
Acer rubrum (DBHs: 10,8,8)	179/358	50	X	FAC
Prunus serotina (DBHs: 10,8,8)	179/358	50	X	FACU
<u>Shrubs</u>				
Viburnum dentatum var. lucidum	70/74	95	X	FACW-
Lonicera morrowii	2/74	3		FACU
Rosa multiflora	2/74	3		FACU

HYDROPHYTES

NON-HYDROPHYTES

0 1 1 0
 OBL FACW FAC *OTHER

0 1 0
 FAC- FACU UPL

Hydrophytes Subtotal (A): 2Non-hydrophytes Subtotal (B): 1PERCENT HYDROPHYTES (100A/A+B): 2/3= 67%**HYDROLOGY**☒ RECORDED DATA

Stream, lake, or tidal gage

Identification:

Aerial photography

Identification: Heavy rains - day of sampling

Other

Identification:

☒ NO RECORDED DATA☒ OBSERVATIONSDepth to Free Water: 13" (heavy rains day of sampling)

Depth to Saturation (including capillary fringe):

Altered Hydrology (explain):

☐ Inundated☐ Saturated in
upper 12"☐ Water Marks☐ Drift Lines☐ Sediment
Deposits☒ Drainage Patterns
within Wetland☐ OTHER (explain):

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: N/A

PLOT: GB-(P)-02

DELINEATOR(S): G. METZLER (TEC), M. NARCHI (TEC)

DATE: Nov 13 , 2002

Upland

Location: Northside of Gomes Brook

VEGETATION

STRATUM AND SPECIES	DOMINANCE RATIO	PERCENT DOMINANCE	D O M	NWI STATUS
<u>Trees</u>				
Prunus serotina (DBHs: 12,6,6)	169.6/169.6	100	X	FACU
<u>Shrubs</u>				
Viburnum dentatum var. lucidum	40/60	66	X	FACW-
Lonicera morrowii	20/60	33		FACU

HYDROPHYTES

NON-HYDROPHYTES

 $\frac{0}{\text{OBL}}$ $\frac{1}{\text{FACW}}$ $\frac{0}{\text{FAC}}$ $\frac{0}{\text{*OTHER}}$ $\frac{0}{\text{FAC-}}$ $\frac{1}{\text{FACU}}$ $\frac{0}{\text{UPL}}$ Hydrophytes Subtotal (A): 1Non-hydrophytes Subtotal (B): 1PERCENT HYDROPHYTES (100A/A+B): 1/2 = 50%**HYDROLOGY**☐ RECORDED DATA

Stream, lake, or tidal gage

Identification: 10% (heavy rain day of fieldwork)

Aerial photography

Identification:

Other

Identification:

☒ NO RECORDED DATA☒ OBSERVATIONSDepth to Free Water: 10" (heavy rains day of sampling)

Depth to Saturation (including capillary fringe):

Altered Hydrology (explain):

☐ Inundated☐ Saturated in
upper 12"☐ Water Marks☐ Drift Lines☐ Sediment
Deposits☐ Drainage Patterns
within Wetland☐ OTHER (explain):

SOIL-Sketch landscape position of this plot. Indicate relative position of other plot(s) and the wetland flag if not on plan.

Submission of photo of plot is encouraged. **PLEASE REFER TO APPENDIX B, PHOTO #2**

DEPTH	HORIZON	MATRIX COLOR	REDOXIMORPHIC FEATURES (color, abundance, size, contrast)	COMMENTS
				(USDA texture, nodules, concretions, masses, pore linings, restrictive layers, root distribution, soil water, etc.)
0-8"	A	10YR3/2		silty loam, granular
8-15"	B	2.5Y5/2		silty loam, blocky

HYDRIC SOIL INDICATOR(S):

REFERENCE(S):

OPTIONAL SOIL DATA Mapped NeB

REFERENCE(S):

Taxonomic subgroup:

Soil drainage class:

Depth to active water table:

NTCHS hydric soil criterion:

CONCLUSIONS

	YES	NO	REMARKS:
Hydric vegetation met?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland hydrology met?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	See description in hydrology
Hydric soils criterion met?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
IS THIS DATAPOINT IN A WETLAND?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: N/A

PLOT: GB-(P)-02

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION TRANSECT: N/A PLOT: GB-(P)-03
 DELINEATOR(S): G. METZLER (TEC), M. NARCHI (TEC) DATE: NOV 14, 2002 Wetland
 Location: Gomes Brook southside "arm" extending well out from GB

VEGETATION

STRATUM AND SPECIES	DOMINANCE RATIO	PERCENT DOMINANCE	D O M	NWI STATUS
<u>Shrubs</u>				
Toxicodendron radicans	40/47	85	X	FAC
Viburnum dentatum var. lucidum	5/47	11		FACW-
Lonicera morrowii	2/47	4		FACU
<u>Herbs</u>				
Onoclea sensibilis	100	100	X	FACW

HYDROPHYTES

NON-HYDROPHYTES

$\frac{0}{\text{OBL}}$ $\frac{1}{\text{FACW}}$ $\frac{1}{\text{FAC}}$ $\frac{0}{*\text{OTHER}}$ $\frac{0}{\text{FAC-}}$ $\frac{0}{\text{FACU}}$ $\frac{0}{\text{UPL}}$
 Hydrophytes Subtotal (A): 2 Non-hydrophytes Subtotal (B): 0

PERCENT HYDROPHYTES (100A/A+B): 1/1 = 100%

HYDROLOGY

☐ RECORDED DATA

Stream, lake, or tidal gage Identification:
 Aerial photography Identification:
 Other Identification:

☒ NO RECORDED DATA

☒ OBSERVATIONS

Depth to Free Water: 8"

Depth to Saturation (including capillary fringe): 4" heavy rain previous day; saturated to surface in some similar areas

Altered Hydrology (explain):

☐ Inundated ☐ Saturated in upper 12" ☐ Water Marks ☐ Drift Lines ☐ Sediment Deposits ☐ Drainage Patterns within Wetland

☒ OTHER (explain): some weak drainage patterns in nearby similar areas (similar veg.)

SOIL—Sketch landscape position of this plot. Indicate relative position of other plot(s) and the wetland flag if not on plan.

Submission of photo of plot is encouraged. **PLEASE REFER TO APPENDIX B, PHOTO #3**

DEPTH	HORIZON	MATRIX COLOR	REDOXIMORPHIC FEATURES (color, abundance, size, contrast)	COMMENTS
				(USDA texture, nodules, concretions, masses, pore linings, restrictive layers, root distribution, soil water, etc.)
0-7"	A	10YR3/2		silty loam, granular
7-16"	B	2.5Y4/2	10YR5/4, 5,5mm, f to d sporadically found	silty loam, blocky

HYDRIC SOIL INDICATOR(S):
IIID

REFERENCE(S):
NEHSTC (1998)

OPTIONAL SOIL DATA Mapped PmA

REFERENCE(S):

Taxonomic subgroup:

Soil drainage class:

Depth to active water table:

NTCHS hydric soil criterion:

CONCLUSIONS

	YES	NO	REMARKS:
Hydric vegetation met?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland hydrology met?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric soils criterion met?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Hydric characteristics spotty but present – weak hydrology and soils evidence but strong hydrophytic vegetation considered overriding.
IS THIS DATAPOINT IN A WETLAND?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: N/A

PLOT: GB-(P)-03

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION TRANSECT: N/A PLOT: GB-(P)-04
 DELINEATOR(S): G. METZLER (TEC), M. NARCHI (TEC) DATE: NOV 14, 2002 Upland
 Location: Gomes Brook southside "arm" extending well out from GB

VEGETATION

STRATUM AND SPECIES	DOMINANCE RATIO	PERCENT DOMINANCE	D O M	NWI STATUS
<u>Shrubs</u>				
Lonicera morrowii	10/50	20	X	FACU
Rubus idaeus ?	40/50	80	X	FAC- or NI
<u>Herbs</u>				
Solidago rugosa	20	100	X	FAC

HYDROPHYTES

NON-HYDROPHYTES

$\frac{0}{\text{OBL}}$ $\frac{0}{\text{FACW}}$ $\frac{1}{\text{FAC}}$ $\frac{0}{\text{*OTHER}}$

$\frac{1}{\text{FAC-}}$ $\frac{1}{\text{FACU}}$ $\frac{0}{\text{UPL}}$

Hydrophytes Subtotal (A): 1

Non-hydrophytes Subtotal (B): 2

PERCENT HYDROPHYTES (100A/A+B): 1/3 = 33% or 1/2 = 50%

HYDROLOGY

☐ RECORDED DATA

Stream, lake, or tidal gage Identification:

Aerial photography Identification:

Other Identification:

☒ NO RECORDED DATA

☒ OBSERVATIONS

Depth to Free Water: 14"

Depth to Saturation (including capillary fringe): 11" (heavy rain previous day)

Altered Hydrology (explain):

☐ Inundated ☐ Saturated in upper 12" ☐ Water Marks ☐ Drift Lines ☐ Sediment Deposits ☐ Drainage Patterns within Wetland

☐ OTHER (explain):

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: N/A

PLOT: GB-(P)-05

DELINEATOR(S): G. METZLER (TEC), M. NARCHI (TEC)

DATE: Nov 14, 2002

WETLAND

LOCATION: SOUTHEAST NEAR CATTAIL MARSH IN SPRUCE PLANTING.

VEGETATION

STRATUM AND SPECIES	DOMINANCE RATIO	PERCENT DOMINANCE	D O M	NWI STATUS
<u>Trees</u>				
Acer rubrum (DBHs: 12,16)	314/643.7	48.8	X	FAC
Picea abies (DBHs: 8,16)	251.2/643.7	39	X	-
Prunus serotina (DBH: 10)	78.5/643.7	12.2		FACU
<u>Shrubs</u>				
Viburnum dentatum var. lucidum	30/40	75	X	FACW-
Rosa multiflora	10/40	25	X	FACU

HYDROPHYTES**NON-HYDROPHYTES**

$\frac{0}{\text{OBL}}$
 $\frac{1}{\text{FACW}}$
 $\frac{1}{\text{FAC}}$
 $\frac{0}{\text{*OTHER}}$

$\frac{0}{\text{FAC-}}$
 $\frac{1}{\text{FACU}}$
 $\frac{0}{\text{UPL}}$

Hydrophytes Subtotal (A): 2Non-hydrophytes Subtotal (B): 1PERCENT HYDROPHYTES (100A/A+B): 2/3 = 67%**HYDROLOGY**☐ RECORDED DATA

Stream, lake, or tidal gage

Identification:

Aerial photography

Identification:

Other

Identification:

☒ NO RECORDED DATA☒ OBSERVATIONSDepth to Free Water: soil nearly saturated to surface (heavy rain previous day)Depth to Saturation (including capillary fringe): >12" (cobbles below 12")

Altered Hydrology (explain):

☐ Inundated☐ Saturated in
upper 12"☐ Water Marks☐ Drift Lines☐ Sediment
Deposits☒ Drainage Patterns
within Wetland☐ OTHER (explain):

Submission of photo of plot is encouraged.b **PLEASE REFER TO APPENDIX B, PHOTO #5**

HYDRIC SOIL INDICATOR(S):	REFERENCE(S):
The nature and proximity of the parent material is preventing hydric soil criteria from developing.	

REFERENCE(S):

Taxonomic subgroup:
Soil drainage class:
Depth to active water table:
NTCHS hydric soil criterion:

	YES	NO	REMARKS:
Hydric vegetation met?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland hydrology met?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric soils criterion met?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	See discussion above
IS THIS DATAPOINT IN A WETLAND?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

PLOT: GB-(P)-05

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: N/A

PLOT: GB-(P)-06

DELINEATOR(S): G. METZLER (TEC), M. NARCHI (TEC)

DATE: Nov 14, 2002

Upland

Location: SOUTHEAST NEAR CATTAIL MARSH IN SPRUCE PLANTING.

VEGETATION

STRATUM AND SPECIES	DOMINANCE RATIO	PERCENT DOMINANCE	D O M	NWI STATUS
<u>Trees</u>				
Acer rubrum (DBHs: 16,12)	354/954.6	33	X	FAC
Picea abies (DBHs: 8,16,10,10,14)	562.1/954.6	59	X	-
Prunus serotina (DBH:10")	78.5/954.6	8		FACU
<u>Shrubs</u>				
Viburnum dentatum var. lucidum	10/20	50	X	FACW-
Rosa multiflora	10/20	50	X	FACU

HYDROPHYTES

NON-HYDROPHYTES

$\frac{0}{\text{OBL}}$
 $\frac{1}{\text{FACW}}$
 $\frac{1}{\text{FAC}}$
 $\frac{0}{\text{*OTHER}}$

$\frac{0}{\text{FAC-}}$
 $\frac{1}{\text{FACU}}$
 $\frac{0}{\text{UPL}}$

Hydrophytes Subtotal (A): 2Non-hydrophytes Subtotal (B): 1PERCENT HYDROPHYTES (100A/A+B): 2/3 = 67%**HYDROLOGY**☐ RECORDED DATA

Stream, lake, or tidal gage

Identification:

Aerial photography

Identification:

Other

Identification:

☒ NO RECORDED DATA☒ OBSERVATIONS

Depth to Free Water:

Depth to Saturation (including capillary fringe): >13" soil moist at this depth (cobble/rock below)

Altered Hydrology (explain):

☐ Inundated☐ Saturated in
upper 12"☐ Water Marks☐ Drift Lines☐ Sediment
Deposits☐ Drainage Patterns
within Wetland☐ OTHER (explain):

Submission of photo of plot is encouraged. **PLEASE REFER TO APPENDIX B, PHOTO #6**

HYDRIC SOIL INDICATOR(S): Mapped NeB REFERENCE(S):

REFERENCE(S):

NTCHS hydric soil criterion:

YES NO REMARKS:

☒ ☐☐ ☒☐ ☒☐ ☒

PLOT: GB-(P)-06

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: N/A

PLOT: TF5-(P)-01

DELINEATOR(S): G. METZLER (TEC), M. NARCHI (TEC)

DATE: OCT 19, 2002

Upland

LOCATION: BESIDE ACCESS ROAD NEAR CLUSTERED MONITORING WELLS

VEGETATION

STRATUM AND SPECIES	DOMINANCE RATIO	PERCENT DOMINANCE	D O M	NWI STATUS
<u>Herbs</u>				
Aristida dichotoma	3/61	5		-
Agrostis stolonifera ?	2/61	3		FACW
Juncus effusus	2/61	3		FACW+
Solidago rugosa	1/61	2		FAC
Euthamia tenuifolia	30/61	50	X	FACU
Juncus tenuis	3/61	5		FAC-/ FACW
Festuca rubra	10/61	16		FACU
Aster pilosus ?	10/61	16		-

HYDROPHYTES

NON-HYDROPHYTES

$\frac{0}{\text{OBL}}$
 $\frac{0}{\text{FACW}}$
 $\frac{0}{\text{FAC}}$
 $\frac{0}{\text{*OTHER}}$

$\frac{0}{\text{FAC-}}$
 $\frac{1}{\text{FACU}}$
 $\frac{0}{\text{UPL}}$

Hydrophytes Subtotal (A): 0Non-hydrophytes Subtotal (B): 1PERCENT HYDROPHYTES (100A/A+B): 0/1 = 0%**HYDROLOGY**☐ RECORDED DATA

Stream, lake, or tidal gage

Identification:

Aerial photography

Identification:

Other

Identification:

☒ NO RECORDED DATA☒ OBSERVATIONS

Depth to Free Water:

Depth to Saturation (including capillary fringe): >18"Altered Hydrology (explain): Filled area part of tank farm; very level☐ Inundated☐ Saturated in
upper 12"☐ Water Marks☐ Drift Lines☐ Sediment
Deposits☐ Drainage Patterns
within Wetland☒ OTHER (explain): ox rhiz at 10"+

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: N/A

PLOT: TF5-(P)-02

DELINEATOR(S): G. METZLER (TEC), M. NARCHI (TEC)

DATE: OCT 19, 2002

Wetland

LOCATION: SAME AS TF5(P)-01 BUT IN WETLAND

VEGETATION

STRATUM AND SPECIES	DOMINANCE RATIO	PERCENT DOMINANCE	D O M	NWI STATUS
<u>Herbs</u>				
Juncus effusus	50/79	63	X	FACW+
Lythrum salicaria	2/79	3		FACW+
Polygonum pensylvanicum	15/79	19		FACW
Euthamia tenuifolia	5/79	6		FACU
Echinochloa crusgalli	5/79	6		FACU
Aster pilosus ?	2/79	3		-

HYDROPHYTES**NON-HYDROPHYTES**

$\frac{0}{\text{OBL}}$
 $\frac{1}{\text{FACW}}$
 $\frac{0}{\text{FAC}}$
 $\frac{0}{\text{*OTHER}}$

$\frac{0}{\text{FAC-}}$
 $\frac{0}{\text{FACU}}$
 $\frac{0}{\text{UPL}}$

Hydrophytes Subtotal (A): 1Non-hydrophytes Subtotal (B): 0PERCENT HYDROPHYTES (100A/A+B): 1/1 = 100%**HYDROLOGY**☐ RECORDED DATA

Stream, lake, or tidal gage

Identification:

Aerial photography

Identification:

Other

Identification:

☒ NO RECORDED DATA☒ OBSERVATIONSDepth to Free Water: >16"Depth to Saturation (including capillary fringe): soil saturated at 5-8"

Altered Hydrology (explain):

☐ Inundated☐ Saturated in
upper 12"☐ Water Marks☐ Drift Lines☐ Sediment
Deposits☒ Drainage Patterns
within Wetland☒ OTHER (explain): stained lvs, ox rhiz

Submission of photo of plot is encouraged. **PLEASE REFER TO APPENDIX B, PHOTO #7**

HYDRIC SOIL INDICATOR(S):	REFERENCE(S):
Disturbed soil column and nature of the parent material is preventing defined New England hydric soil criteria from developing.	

REFERENCE(S):

Taxonomic subgroup: Udorthent
Soil drainage class:
Depth to active water table:
NTCHS hydric soil criterion:

	YES	NO	REMARKS:
Hydric vegetation met?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland hydrology met?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric soils criterion met?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	See above.
IS THIS DATAPOINT IN A WETLAND?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

PLOT: TF5-(P)-02

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: N/A

PLOT: TF5-(P)-03

DELINEATOR(S): G. METZLER (TEC), M. NARCHI (TEC)

DATE: OCT 19, 2002

Wetland

LOCATION: CATTAIL MARSH OVER TANK

VEGETATION

STRATUM AND SPECIES	DOMINANCE RATIO	PERCENT DOMINANCE	D O M	NWI STATUS
<u>Herbs</u>				
Euthamia tenuifolia	5/39	13		FACU
Typha latifolia	10/39	26	X	OBL
Juncus tenuis	2/39	5		FAC-/ FACW
Juncus canadensis	20/39	51	X	OBL
Agrostis stolonifera ?	2/39	5		FACW

HYDROPHYTES

NON-HYDROPHYTES

$\frac{2}{\text{OBL}}$ $\frac{0}{\text{FACW}}$ $\frac{0}{\text{FAC}}$ $\frac{0}{\text{*OTHER}}$

$\frac{0}{\text{FAC-}}$ $\frac{0}{\text{FACU}}$ $\frac{0}{\text{UPL}}$

Hydrophytes Subtotal (A): 2Non-hydrophytes Subtotal (B): 0PERCENT HYDROPHYTES (100A/A+B): 2/2 = 100%**HYDROLOGY**☐ RECORDED DATA

Stream, lake, or tidal gage

Identification:

Aerial photography

Identification:

Other

Identification:

☒ NO RECORDED DATA☒ OBSERVATIONSDepth to Free Water: 0"Depth to Saturation (including capillary fringe): to surface

Altered Hydrology (explain):

☒ Inundated☒ Saturated in
upper 12"☐ Water Marks☐ Drift Lines☐ Sediment
Deposits☐ Drainage Patterns
within Wetland☒ OTHER (explain): Pit at western boundary had: depth to free water @ 20", depth to saturated @ 16"

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: N/A

PLOT: TF5-(P)-04

DELINEATOR(S): G. METZLER (TEC), M. NARCHI (TEC)

DATE: OCT 19, 2002

Wetland

LOCATION: EMERGENT WETLAND TO THE SW IN TF5

VEGETATION

STRATUM AND SPECIES	DOMINANCE RATIO	PERCENT DOMINANCE	D O M	NWI STATUS
<u>Herbs</u>				
Juncus effusus	30/87	34	X	FACW+
Dactylis glomerata	10/87	11		FACU
Scirpus cyperinus	25/87	29	X	FACW+
Agrostis stolonifera ?	5/87	6		FACW
Polygonum pennsylvanicum	2/87	2		FACW
Euthamia tenuifolia	10/87	11		FACW
Rumex crispus	5/87	6		FACW
<u>Shrubs</u>				
Salix discolor	2/2	100%		FACW

HYDROPHYTES

NON-HYDROPHYTES

$\frac{0}{\text{OBL}}$ $\frac{2}{\text{FACW}}$ $\frac{0}{\text{FAC}}$ $\frac{0}{*OTHER}$

$\frac{0}{\text{FAC-}}$ $\frac{0}{\text{FACU}}$ $\frac{0}{\text{UPL}}$

Hydrophytes Subtotal (A): 2Non-hydrophytes Subtotal (B): 0PERCENT HYDROPHYTES (100A/A+B): 2/2 = 100%**HYDROLOGY**☐ RECORDED DATA

Stream, lake, or tidal gage

Identification:

Aerial photography

Identification:

Other

Identification:

☒ NO RECORDED DATA☒ OBSERVATIONS

Depth to Free Water:

Depth to Saturation (including capillary fringe): >10"

Altered Hydrology (explain):

☐ Inundated☐ Saturated in
upper 12"☐ Water Marks☐ Drift Lines☐ Sediment
Deposits☒ Drainage Patterns
within Wetland☒ OTHER (explain): water stained leaves

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: N/A

PLOT: TF5-(P)-05

DELINEATOR(S): G. METZLER (TEC), M. NARCHI (TEC)

DATE: OCT 19, 2002

Upland

LOCATION: WETLAND TO THE SW IN TF5.

VEGETATION

STRATUM AND SPECIES	DOMINANCE RATIO	PERCENT DOMINANCE	D O M	NWI STATUS
<u>Herbs</u>				
Rumex crispus	10/68	15	X	FACU
Solidago rugosa	2/68	3		FAC
Dactylis glomerata	30/68	44	X	FACU
Rosa multiflora	10/68	15	X	FACU
Centaurea nigra	10/68	15	X	
Vicia sativa	2/68	3		
Euthamia tenuifolia	2/68	3		FACU
Festuca rubra	2/68	3		FACU
<u>Shrubs</u>				
Elaeagnus umbellata	20/20	100	X	-

HYDROPHYTES

NON-HYDROPHYTES

$\frac{0}{\text{OBL}}$
 $\frac{0}{\text{FACW}}$
 $\frac{0}{\text{FAC}}$
 $\frac{0}{*\text{OTHER}}$

$\frac{0}{\text{FAC-}}$
 $\frac{3}{\text{FACU}}$
 $\frac{0}{\text{UPL}}$

Hydrophytes Subtotal (A): 0Non-hydrophytes Subtotal (B): 3PERCENT HYDROPHYTES (100A/A+B): 0/3 = 0%**HYDROLOGY**☐ RECORDED DATA

Stream, lake, or tidal gage

Identification:

Aerial photography

Identification:

Other

Identification:

☒ NO RECORDED DATA☒ OBSERVATIONS

Depth to Free Water:

Depth to Saturation (including capillary fringe): >10"

Altered Hydrology (explain):

☐ Inundated☐ Saturated in
upper 12"☐ Water Marks☐ Drift Lines☐ Sediment
Deposits☐ Drainage Patterns
within Wetland☐ OTHER (explain):

Submission of photo of plot is encouraged. **PLEASE REFER TO APPENDIX B, PHOTO #9**

HYDRIC SOIL INDICATOR(S): REFERENCE(S):

REFERENCE(S):

NTCHS hydric soil criterion:

YES NO REMARKS:

IS THIS DATAPOINT IN A WETLAND?

PLOT: TF5-(P)-05

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: N/A

PLOT: TF4C-(P)-01

DELINEATOR(S): G. METZLER (TEC), M. NARCHI (TEC)

DATE: NOV 11, 2002

Upland

LOCATION: ALONG NORTH SIDE - 500 FT FROM ROAD

VEGETATION

STRATUM AND SPECIES	DOMINANCE RATIO	PERCENT DOMINANCE	D O M	NWI STATUS
<u>Herbs</u>				
Solidago rugosa	75/90	83	X	FAC
Euthamia tenuifolia	5/90	6		FACU
Rumex crispus	5/90	6		FACU
Juncus tenuis	5/90	6		FAC-/ FACW

HYDROPHYTES

NON-HYDROPHYTES

 1
 OBL FACW FAC *OTHER

 FAC- FACU UPL

Hydrophytes Subtotal (A): 1Non-hydrophytes Subtotal (B): 0PERCENT HYDROPHYTES (100A/A+B): 100**HYDROLOGY**☐ RECORDED DATA

Stream, lake, or tidal gage

Identification:

Aerial photography

Identification:

Other

Identification:

☒ NO RECORDED DATA☒ OBSERVATIONS

Depth to Free Water:

Depth to Saturation (including capillary fringe): >18"

Altered Hydrology (explain):

☐ Inundated☐ Saturated in
upper 12"☐ Water Marks☐ Drift Lines☐ Sediment
Deposits☐ Drainage Patterns
within Wetland☒ OTHER (explain): ox rhiz. Some ruts from when soil possibly saturated. No other indicators.

Submission of photo of plot is encouraged. **PLEASE REFER TO APPENDIX B, PHOTO #10**

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION TRANSECT: N/A PLOT: TF4C-(P)-01

PLOT: TF4C-(P)-02

Wetland

LOCATION:

VEGETATION

[illegible]

HYDROPHYTES

NON-HYDROPHYTES

<u>OBL</u>	<u>1</u> <u>FACW</u>	<u>FAC</u>	<u>*OTHER</u>
------------	-------------------------	------------	---------------

<u>FAC-</u>	<u>FACU</u>	<u>UPL</u>
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9
10	10	10
11	11	11
12	12	12
13	13	13
14	14	14
15	15	15
16	16	16
17	17	17
18	18	18
19	19	19
20	20	20
21	21	21
22	22	22
23	23	23
24	24	24
25	25	25
26	26	26
27	27	27
28	28	28
29	29	29
30	30	30
31	31	31
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40	40	40
41	41	41
42	42	42
43	43	43
44	44	44
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62	62	62
63	63	63
64	64	64
65	65	65
66	66	66
67	67	67
68	68	68
69	69	69
70	70	70
71	71	71
72	72	72
73	73	73
74	74	74
75	75	75
76	76	76
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79	79	79
80	80	80
81	81	81
82	82	82
83	83	83
84	84	84
85	85	85
86	86	86
87	87	87
88	88	88
89	89	89
90	90	90
91	91	91
92	92	92
93	93	93
94	94	94
95	95	95
96	96	96
97	97	97
98	98	98
99	99	99
100	100	100

Hydrophytes Subtotal (A): 1Non-hydrophytes Subtotal (B): 0

PERCENT HYDROPHYTES (100A/A+B): 100

HYDROLOGY

☐ RECORDED DATA

Stream, lake, or tidal gage

Identification:

Aerial photography

Identification:

Other

Identification:

☒ NO RECORDED DATA

☒ OBSERVATIONS

Depth to Free Water:

Depth to Saturation (including capillary fringe): >20"

Altered Hydrology (explain):

☐ Inundated☐ Saturated in upper 12"☐ Water Marks☐ Drift Lines☐ Sediment Deposits

☒ Drainage Patterns within Wetland

☐ OTHER (explain): ox rhiz

Submission of photo of plot is encouraged. **PLEASE REFER TO APPENDIX B, PHOTO #10**

HYDRIC SOIL INDICATOR(S):
Soil does not technically meet NEHSTC (1998) criteria.
Development of hydric characteristics stronger than in
P-01. Dark weathering soil may be masking hydric
characteristics.

REFERENCE(S):

OPTIONAL SOIL DATA Mapped UD

REFERENCE(S):

Taxonomic subgroup:

Soil drainage class:

Depth to active water table:

NTCHS hydric soil criterion:

CONCLUSIONS

	YES	NO	REMARKS:
Hydric vegetation met?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland hydrology met?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric soils criterion met?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	See discussion above; strong hydric characteristics elsewhere in this wetland where veg. is similar.
IS THIS DATAPOINT IN A WETLAND?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Prevalence of FACW+ veg. considered.

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: N/A

PLOT: TF4C-(P)-02

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: N/A

PLOT: TF4C-(P)-03

DELINEATOR(S): G. METZLER (TEC), M. NARCHI (TEC)

DATE: Nov 12, 2002

Upland

LOCATION: 75 FT. BEHIND BLOCK BUILDING

VEGETATION

STRATUM AND SPECIES	DOMINANCE RATIO	PERCENT DOMINANCE	D O M	NWI STATUS
<u>Shrubs</u>				
Elaeagnus umbellata	5/15	33	X	
Rubus idaeus ?	10/15	66	X	FAC-
<u>Herbs</u>				
Solidago rugosa	60/100	60	X	FAC
Euthamia tenuifolia	20/100	20	X	FACU
Juncus effusus	20/100	20	X	FACW+

HYDROPHYTES

NON-HYDROPHYTES

 1 1
 OBL FACW FAC *OTHER

1 1
 FAC- FACU UPL

Hydrophytes Subtotal (A): 2Non-hydrophytes Subtotal (B): 2PERCENT HYDROPHYTES (100A/A+B): 50**HYDROLOGY**☐ RECORDED DATA

Stream, lake, or tidal gage

Identification:

Aerial photography

Identification:

Other

Identification:

☒ NO RECORDED DATA☒ OBSERVATIONS

Depth to Free Water:

Depth to Saturation (including capillary fringe): >15"

Altered Hydrology (explain):

☐ Inundated☐ Saturated in
upper 12"☐ Water Marks☐ Drift Lines☐ Sediment
Deposits☐ Drainage Patterns
within Wetland☐ OTHER (explain):

Submission of photo of plot is encouraged. **PLEASE REFER TO APPENDIX B, PHOTO #11**

HYDRIC SOIL INDICATOR(S):	REFERENCE(S):
Does not meet technical criteria of NEHSTC (1998).	

REFERENCE(S):

CONCLUSIONS

YES	NO	REMARKS:
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Plant ID uncertain.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION TRANSECT: N/A PLOT: TF4c-(P)-03

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: N/A

PLOT: TF4C-(P)-04

DELINEATOR(S): G. METZLER (TEC), M. NARCHI (TEC)

DATE: NOV 12, 2002

Wetland

LOCATION: 75 FT. BEHIND BLOCK BUILDING

VEGETATION

STRATUM AND SPECIES	DOMINANCE RATIO	PERCENT DOMINANCE	D O M	NWI STATUS
<u>Shrubs</u>				
Salix discolor	50/75	66	X	FACW
Elaeagnus umbellata	5/75	7		-
Rosa multiflora	20/75	20	X	FACU
<u>Herbs</u>				
Juncus effusus	40/45	88	X	FACW+
Typha latifolia	5/45	11		OBL

HYDROPHYTES

NON-HYDROPHYTES

 2
 OBL FACW FAC *OTHER

 1
 FAC- FACU UPL

Hydrophytes Subtotal (A): 2Non-hydrophytes Subtotal (B): 1PERCENT HYDROPHYTES (100A/A+B): 66**HYDROLOGY**☐ RECORDED DATA

Stream, lake, or tidal gage

Identification:

Aerial photography

Identification:

Other

Identification:

☒ NO RECORDED DATA☒ OBSERVATIONS

Depth to Free Water:

Depth to Saturation (including capillary fringe): >16"

Altered Hydrology (explain):

☐ Inundated☐ Saturated in
upper 12"☐ Water Marks☐ Drift Lines☐ Sediment
Deposits☒ Drainage Patterns
within Wetland☐ OTHER (explain):

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: N/A

PLOT: TF4C-(P)-05

DELINEATOR(S): G. METZLER (TEC), M. NARCHI (TEC)

DATE: NOV 12, 2002

Wetland

LOCATION: NEAR SE CORNER

VEGETATION

STRATUM AND SPECIES	DOMINANCE RATIO	PERCENT DOMINANCE	D O M	NWI STATUS
<u>Herbs</u>				
Juncus effusus	50/100	50	X	FACW+
Euthamia tenuifolia	20/100	20	X	FACU
Juncus tenuis	20/100	20	X	FAC-/ FACW
Festuca pratensis ? (no fruit)	10/100	10		FACU-
NWI status for J. tenuis depends on variety.				
Assumed FACW				

HYDROPHYTES**NON-HYDROPHYTES**

 2
OBL FACW FAC *OTHER

 1
FAC- FACU UPL

Hydrophytes Subtotal (A): 2Non-hydrophytes Subtotal (B): 1PERCENT HYDROPHYTES (100A/A+B): 66**HYDROLOGY**☐ RECORDED DATA

Stream, lake, or tidal gage

Identification:

Aerial photography

Identification:

Other

Identification:

☒ NO RECORDED DATA☒ OBSERVATIONS

Depth to Free Water:

Depth to Saturation (including capillary fringe): >14"

Altered Hydrology (explain):

☐ Inundated☐ Saturated in
upper 12"☐ Water Marks☐ Drift Lines☐ Sediment
Deposits☒ Drainage Patterns
within Wetland☐ OTHER (explain):

Submission of photo of plot is encouraged. **PLEASE REFER TO APPENDIX B, PHOTO #12**

HYDRIC SOIL INDICATOR(S):	REFERENCE(S):
IIID	NEHSTC (1998)

REFERENCE(S):

CONCLUSIONS

YES	NO	REMARKS: .
<input checked="" type="checkbox"/>	<input type="checkbox"/>	See note in vegetation section
<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: N/A

PLOT: TF4C-(P)-05

PLOT: NB-(P)-01

Wetland

LOCATION: NEAR ROAD

VEGETATION

[illegible]

HYDROPHYTES

NON-HYDROPHYTES

<u>OBL</u>	<u>1</u> <u>FACW</u>	<u>FAC</u>	<u>*OTHER</u>
------------	-------------------------	------------	---------------

$\frac{\text{FAC-}}{\text{FACU}}$	$\frac{1}{\text{FACU}}$	$\frac{\text{UPL}}{\text{UPL}}$
-----------------------------------	-------------------------	---------------------------------

Hydrophytes Subtotal (A): 1

Non-hydrophytes Subtotal (B): 1

PERCENT HYDROPHYTES (100A/A+B): 50

HYDROLOGY

☐ RECORDED DATA

Stream, lake, or tidal gage

Identification:

Aerial photography

Identification:

Other

Identification:

☒ NO RECORDED DATA☒ OBSERVATIONS

Depth to Free Water:

Depth to Saturation (including capillary fringe): >17"

Altered Hydrology (explain):

☐ Inundated☐ Saturated in upper 12"☒ Water Marks☐ Drift Lines☐ Sediment Deposits☒ Drainage Patterns within Wetland☐ OTHER (explain):

SOIL-Sketch landscape position of this plot. Indicate relative position of other plot(s) and the wetland flag if not on plan.

Vertical Distance between plots: 0.5'

Southwest

P-1

P.2

Submission of photo of plot is encouraged.

[illegible]

HYDRIC SOIL INDICATOR(S):

REFERENCE(S):

Grey color due to weathered rock. Comes very close to meeting criteria IIIE NEHSTC (1998). This location may receive soil deposition from drainage to the north.

OPTIONAL SOIL DATA Mapped Se (hydric)

REFERENCE(S):

Taxonomic subgroup:

Soil drainage class:

Depth to active water table:

NTCHS hydric soil criterion:

CONCLUSIONS

YES NO REMARKS:

Hydric vegetation met?

☒

Presence of very dense multiflora rose has eliminated other hydrophytes

Wetland hydrology met?

☒

Hydric soils criterion met?

☐☒

See discussion in soils

IS THIS DATAPOINT IN A WETLAND?

☒

Overall, professional, judgment used to determine this location is a wetland.

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION TRANSECT: N/A

PLOT: NB-(P)-01

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: N/A

PLOT: NB-(P)-02

DELINEATOR(S): G. METZLER (TEC), M. NARCHI (TEC)

DATE: NOV 10, 2002

Upland

LOCATION:

VEGETATION

STRATUM AND SPECIES	DOMINANCE RATIO	PERCENT DOMINANCE	D O M	NWI STATUS
<u>Shrubs</u>				
Rosa multiflora	100/100	100		FACU

HYDROPHYTES

NON-HYDROPHYTES

OBL FACW FAC *OTHERFAC- $\frac{1}{\text{FACU}}$ UPLHydrophytes Subtotal (A): 0Non-hydrophytes Subtotal (B): 1PERCENT HYDROPHYTES (100A/A+B): 0**HYDROLOGY**☐ RECORDED DATA

Stream, lake, or tidal gage

Identification:

Aerial photography

Identification:

Other

Identification:

☒ NO RECORDED DATA☒ OBSERVATIONS

Depth to Free Water:

Depth to Saturation (including capillary fringe): >18"

Altered Hydrology (explain):

☐ Inundated☐ Saturated in
upper 12"☐ Water Marks☐ Drift Lines☐ Sediment
Deposits☐ Drainage Patterns
within Wetland☐ OTHER (explain):

SOIL-Sketch landscape position of this plot. Indicate relative position of other plot(s) and the wetland flag if not on plan.

See Plot NB-(P)-01

Submission of photo of plot is encouraged.

[illegible]

HYDRIC SOIL INDICATOR(S):

REFERENCE(S):

OPTIONAL SOIL DATA

REFERENCE(S):

Taxonomic subgroup:

Soil drainage class:

Depth to active water table:

NTCHS hydric soil criterion:

CONCLUSIONS

YES NO REMARKS:

Hydric vegetation met?

□ □

Wetland hydrology met?

☐ ☒

Hydric soils criterion met?

□ □

IS THIS DATAPOINT IN A WETLAND?

☐ ☒

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION TRANSECT: N/A

PLOT: NB-(P)-02

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: N/A

PLOT: NB-(P)-03

DELINEATOR(S): G. METZLER (TEC), M. NARCHI (TEC)

DATE: Nov 10, 2002

Upland

LOCATION:

VEGETATION

STRATUM AND SPECIES	DOMINANCE RATIO	PERCENT DOMINANCE	D O M	NWI STATUS
<u>Trees</u>				
Salix nigra (DBHs: 18,18)	509/509	100	X	FACW+
<u>Shrubs</u>				
Rosa multiflora	75/85	88	X	FACU
Lonicera morrowii	10/85	12		FACU

HYDROPHYTES

NON-HYDROPHYTES

 1
 OBL FACW FAC *OTHER

 1
 FAC- FACU UPL

Hydrophytes Subtotal (A): 1Non-hydrophytes Subtotal (B): 1PERCENT HYDROPHYTES (100A/A+B): 50**HYDROLOGY**☐ RECORDED DATA

Stream, lake, or tidal gage

Identification:

Aerial photography

Identification:

Other

Identification:

☒ NO RECORDED DATA☒ OBSERVATIONS

Depth to Free Water:

Depth to Saturation (including capillary fringe): >20"

Altered Hydrology (explain):

☐ Inundated☐ Saturated in
upper 12"☐ Water Marks☐ Drift Lines☐ Sediment
Deposits☐ Drainage Patterns
within Wetland☐ OTHER (explain):

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: N/A

PLOT: NB-(P)-04

DELINEATOR(S): G. METZLER (TEC), M. NARCHI (TEC)

DATE: Nov 11, 2002

Wetland

LOCATION: NEAR SW EDGE OF NB WETLANDS IN FROM ROAD - 500 FT.

VEGETATION

STRATUM AND SPECIES	DOMINANCE RATIO	PERCENT DOMINANCE	D O M	NWI STATUS
<u>Shrubs</u>				
Alnus incana	75/100	75	X	FACW
Viburnum dentatum var. lucidum	15/100	15		FACW-
Rosa multiflora	10/100	10		FACU
<u>Herbs</u>				
Rubus hispidis	5			FACW

HYDROPHYTES

NON-HYDROPHYTES

 1
 OBL FACW FAC *OTHER

 FAC- FACU UPL

Hydrophytes Subtotal (A): 1Non-hydrophytes Subtotal (B): 0PERCENT HYDROPHYTES (100A/A+B): 100**HYDROLOGY**☐ RECORDED DATA

Stream, lake, or tidal gage

Identification:

Aerial photography

Identification:

Other

Identification:

☒ NO RECORDED DATA☒ OBSERVATIONSDepth to Free Water: 18"Depth to Saturation (including capillary fringe): 11"

Altered Hydrology (explain):

☐ Inundated☒ Saturated in
upper 12"☐ Water Marks☐ Drift Lines☐ Sediment
Deposits☐ Drainage Patterns
within Wetland☐ OTHER (explain):

SOIL-Sketch landscape position of this plot. Indicate relative position of other plot(s) and the wetland flag if not on plan.

Vertical Distance between plots: 1'

Submission of photo of plot is encouraged.

Brook

P-4

P-5

South

[illegible]

HYDRIC SOIL INDICATOR(S):

REFERENCE(S):

Color due to weathered rock; this color may be masking other hydric characteristics.

OPTIONAL SOIL DATA Mapped Se (hydric)

REFERENCE(S):

Taxonomic subgroup:

Soil drainage class:

Depth to active water table:

NTCHS hydric soil criterion:

CONCLUSIONS

YES NO REMARKS:

Hydric vegetation met?

☐ ☐

Wetland hydrology met?

☒ ☐

Hydric soils criterion met?

☐ ☒

See discussion above

IS THIS DATAPOINT IN A WETLAND?

☐ ☐

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: N/A

PLOT: NB-(P)-04

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: N/A

PLOT: NB-(P)-05

DELINEATOR(S): G. METZLER (TEC), M. NARCHI (TEC)

DATE: NOV 11, 2002

Upland

LOCATION:

VEGETATION

STRATUM AND SPECIES	DOMINANCE RATIO	PERCENT DOMINANCE	D O M	NWI STATUS
<u>Shrubs</u>				
Alnus incana	5/85	6		FACW
Viburnum dentatum var. lucidum	75/85	88	X	FACW-
Rosa multiflora	5/85	6		FACU
<u>Trees</u>				
Abies balsamea (DBHs: 6,8)	79/158	50	X	FAC
Prunus serotina (DBH: 10)	79/158	50	X	FACU

HYDROPHYTES

NON-HYDROPHYTES

 1 1
 OBL FACW FAC *OTHER

 1
 FAC- FACU UPL

Hydrophytes Subtotal (A): 2Non-hydrophytes Subtotal (B): 1PERCENT HYDROPHYTES (100A/A+B): 66**HYDROLOGY**☐ RECORDED DATA

Stream, lake, or tidal gage

Identification:

Aerial photography

Identification:

Other

Identification:

☒ NO RECORDED DATA☒ OBSERVATIONS

Depth to Free Water:

Depth to Saturation (including capillary fringe): >20" (soil moist only at this depth)

Altered Hydrology (explain):

☐ Inundated☐ Saturated in
upper 12"☐ Water Marks☐ Drift Lines☐ Sediment
Deposits☐ Drainage Patterns
within Wetland☐ OTHER (explain):

SOIL-Sketch landscape position of this plot. Indicate relative position of other plot(s) and the wetland flag if not on plan.

See Plot NB-(P)-04

Submission of photo of plot is encouraged.

[illegible]

HYDRIC SOIL INDICATOR(S):

REFERENCE(S):

Soil color probably due to weathering rock; up gradient about 20 ft. higher in elevation is same soil color throughout profile.

OPTIONAL SOIL DATA

REFERENCE(S):

Taxonomic subgroup:

Soil drainage class:

Depth to active water table:

NTCHS hydric soil criterion:

CONCLUSIONS

YES NO REMARKS:

☒ ☐

□ □

□ □

See discussion above.

☐ ☒

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: N/A

PLOT: NB-(P)-05

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION
DELINEATOR(S): G. METZLER (TEC), M. NARCHI (TEC)
LOCATION: NE OF ACCESS GATE IN DISTURBED MOWED AREA

TRANSECT: N/A
DATE: OCT 18, 2002

PLOT: TF4N-(P)-01
Wetland

VEGETATION

STRATUM AND SPECIES	DOMINANCE RATIO	PERCENT DOMINANCE	D O M	NWI STATUS
<u>Shrubs</u>				
Rosa multiflora	20/42	48	X	FACU
Viburnum dentatum var. lucidum	20/42	48	X	FACW-
Lonicera morrowii	2/42	5		FACU
<u>Herbs</u>				
Rumex crispus	2/74	3		FACU
Fescue sp. (no fruit)	70/74	95	X	-
Acalypha rhomboidea	2/74	3		FACU-

HYDROPHYTES

NON-HYDROPHYTES

 1
OBL FACW FAC *OTHER

 1
FAC- FACU UPL

Hydrophytes Subtotal (A): 1

Non-hydrophytes Subtotal (B): 1

PERCENT HYDROPHYTES (100A/A+B): 50

HYDROLOGY

☐ RECORDED DATA

Stream, lake, or tidal gage Identification:

Aerial photography Identification:

Other Identification:

☒ NO RECORDED DATA

☒ OBSERVATIONS

Depth to Free Water:

Depth to Saturation (including capillary fringe): >20"

Altered Hydrology (explain):

☐ Inundated

☐ Saturated in
upper 12"

☐ Water Marks

☐ Drift Lines

☐ Sediment
Deposits

☐ Drainage Patterns
within Wetland

☒ OTHER (explain): Ruts present from vehicles; appears to be a seepage area.

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: N/A

PLOT: TF4N-(P)-02

DELINEATOR(S): G. METZLER (TEC), M. NARCHI (TEC)

DATE: NOV 9, 2002

Upland

LOCATION: ALONG SOUTH SIDE OF DRAINAGE - 500 FT. IN FROM ROAD

VEGETATION

STRATUM AND SPECIES	DOMINANCE RATIO	PERCENT DOMINANCE	D O M	NWI STATUS
<u>Shrubs</u>				
Viburnum dentatum var. lucidum	30/90	33	X	FACW-
Vaccinium corymbosum	60/90	66	X	FACW-

HYDROPHYTES**NON-HYDROPHYTES**

 2
 OBL FACW FAC *OTHER

 FAC- FACU UPL

Hydrophytes Subtotal (A): 2Non-hydrophytes Subtotal (B): 0PERCENT HYDROPHYTES (100A/A+B): 100**HYDROLOGY**☐ RECORDED DATA

Stream, lake, or tidal gage

Identification:

Aerial photography

Identification:

Other

Identification:

☒ NO RECORDED DATA☒ OBSERVATIONS

Depth to Free Water:

Depth to Saturation (including capillary fringe): >19"

Altered Hydrology (explain):

☐ Inundated☐ Saturated in
upper 12"☐ Water Marks☐ Drift Lines☐ Sediment
Deposits☐ Drainage Patterns
within Wetland☐ OTHER (explain):

SOIL-Sketch landscape position of this plot. Indicate relative position of other plot(s) and the wetland flag if not on plan.

Submission of photo of plot is encouraged.

PLEASE REFER TO APPENDIX B, PHOTO #13

[illegible]

HYDRIC SOIL INDICATOR(S):

REFERENCE(S):

OPTIONAL SOIL DATA Mapped NeB

REFERENCE(S):

Taxonomic subgroup:

Soil drainage class:

Depth to active water table:

NTCHS hydric soil criterion:

CONCLUSIONS

	YES	NO	REMARKS:
Hydric vegetation met?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland hydrology met?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric soils criterion met?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
IS THIS DATAPOINT IN A WETLAND?	<input type="checkbox"/>	<input type="checkbox"/>	

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: N/A

PLOT: TF4N-(P)-02

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: N/A

PLOT: TF4N-(P)-03

DELINEATOR(S): G. METZLER (TEC), M. NARCHI (TEC)

DATE: NOV 9, 2002

Wetland

LOCATION: ALONG SOUTH SIDE OF DRAINAGE - 500 FT. IN FROM ROAD

VEGETATION

STRATUM AND SPECIES	DOMINANCE RATIO	PERCENT DOMINANCE	D O M	NWI STATUS
<u>Shrubs</u>				
Vaccinium corymbosum	40/60	66	X	FACW-
Viburnum dentatum var. lucidum	10/60	17		FACW-
Rosa multiflora	10/60	17		FACU
<u>Trees</u>				
Salix discolor (DBHs: 5,5,8,4,5,4,3,3,6,5,5,5)	207/207	100	X	FACW

HYDROPHYTES

NON-HYDROPHYTES

 2
 OBL FACW FAC *OTHER

 FAC- FACU UPL

Hydrophytes Subtotal (A): 2Non-hydrophytes Subtotal (B): 0PERCENT HYDROPHYTES (100A/A+B): 100**HYDROLOGY**☐ RECORDED DATA

Stream, lake, or tidal gage

Identification:

Aerial photography

Identification:

Other

Identification:

☒ NO RECORDED DATA☒ OBSERVATIONS

Depth to Free Water:

Depth to Saturation (including capillary fringe): >15", soil wet, not saturated at 15"

Altered Hydrology (explain):

☐ Inundated☐ Saturated in
upper 12"☐ Water Marks☐ Drift Lines☐ Sediment
Deposits☒ Drainage Patterns
within Wetland☒ OTHER (explain): ox rhiz at 2-5"

Submission of photo of plot is encouraged. **PLEASE REFER TO APPENDIX B, PHOTO #14**

HYDRIC SOIL INDICATOR(S):	REFERENCE(S):
IIID	NEHSTC (1998)

REFERENCE(S):

CONCLUSIONS

	YES	NO	REMARKS:
Hydric vegetation met?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland hydrology met?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric soils criterion met?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
IS THIS DATAPOINT IN A WETLAND?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: N/A

PLOT: TF4N-(P)-03

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: N/A

PLOT: TF4N-(P)-04

DELINEATOR(S): G. METZLER (TEC), M. NARCHI (TEC)

DATE: OCT 18, 2002

Wetland

LOCATION: NEAR EASTERN LIMIT AT SWALE (NORTH SIDE OF SWALE)

VEGETATION

STRATUM AND SPECIES	DOMINANCE RATIO	PERCENT DOMINANCE	D O M	NWI STATUS
<u>Shrubs</u>				
Lonicera morrowii	10/86	12		FACU
Viburnum dentatum var. lucidum	70/86	81	X	FACW-
Sambucus canadensis	1/86	1		FACW
Rosa multiflora	5/86	6		FACU
<u>Herbs</u>				
Lonicera morrowii	5/5			FACU

HYDROPHYTES

NON-HYDROPHYTES

 1
OBL FACW FAC *OTHER

FAC- FACU UPL

Hydrophytes Subtotal (A): 1Non-hydrophytes Subtotal (B): 0PERCENT HYDROPHYTES (100A/A+B): 100**HYDROLOGY**☐ RECORDED DATA

Stream, lake, or tidal gage

Identification:

Aerial photography

Identification:

Other

Identification:

☒ NO RECORDED DATA☒ OBSERVATIONS

Depth to Free Water:

Depth to Saturation (including capillary fringe): >18"

Altered Hydrology (explain):

☐ Inundated☐ Saturated in
upper 12"☐ Water Marks☐ Drift Lines☐ Sediment
Deposits☒ Drainage Patterns
within Wetland☐ OTHER (explain):

PLOT: TF4N-(P)-04

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: N/A

PLOT: TF4N-(P)-05

DELINEATOR(S): G. METZLER (TEC), M. NARCHI (TEC)

DATE: Nov 9, 2002

Upland

LOCATION: NEAR EASTERN LIMIT AT SWALE (NORTHSIDE OF SWALE)

VEGETATION

STRATUM AND SPECIES	DOMINANCE RATIO	PERCENT DOMINANCE	D O M	NWI STATUS
<u>Trees</u>				
Robinia pseudoacacia (DBHs: 10,12,6,12,10,5,10,10,10,10)	745/745	100	X	FACU-
<u>Vines</u>				
Celastrus orbiculatus (2 stems)	2/2			FACU
<u>Shrubs</u>				
Viburnum dentatum var. lucidum	5/85	6		FACW-
Rosa multiflora	60/85	71	X	FACU
Lonicera morrowii	20/85	24	X	FACU
<u>Herbs</u>				
Solidago rugosa	2/2			FAC

HYDROPHYTES

NON-HYDROPHYTES

OBLFACWFAC*OTHERFAC-3
FACUUPLHydrophytes Subtotal (A): 0Non-hydrophytes Subtotal (B): 3PERCENT HYDROPHYTES (100A/A+B): 0**HYDROLOGY**☐ RECORDED DATA

Stream, lake, or tidal gage

Identification:

Aerial photography

Identification:

Other

Identification:

☒ NO RECORDED DATA☒ OBSERVATIONS

Depth to Free Water:

Depth to Saturation (including capillary fringe): >20", soil is moist at 20"

Altered Hydrology (explain):

☐ Inundated☐ Saturated in
upper 12"☐ Water Marks☐ Drift Lines☐ Sediment
Deposits☐ Drainage Patterns
within Wetland☐ OTHER (explain):

Submission of photo of plot is encouraged. **PLEASE REFER TO APPENDIX B, PHOTO #16**

HYDRIC SOIL INDICATOR(S): REFERENCE(S):

REFERENCE(S):

NTCHS hydric soil criterion:

YES NO REMARKS:

IS THIS DATAPOINT IN A WETLAND? ☐ ☒

PLOT: TF4N-(P)-05

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: N/A

PLOT: TF4N-(P)-06

DELINEATOR(S): G. METZLER (TEC), M. NARCHI (TEC)

DATE: Nov 9, 2002

Wetland

LOCATION:

VEGETATION

STRATUM AND SPECIES	DOMINANCE RATIO	PERCENT DOMINANCE	D O M	NWI STATUS
<u>Tree</u>				
Nyssa sylvatica (DBH: 12)	113/113	100	X	FAC
<u>Shrubs</u>				
Viburnum dentatum var. lucidum	50/61	82	X	FACW-
Lonicera morrowii	10/61	16		FACU
Sambucus canadensis	1/61	2		FACW

HYDROPHYTES

NON-HYDROPHYTES

 1 1
 OBL FACW FAC *OTHER

 FAC- FACU UPL

Hydrophytes Subtotal (A): 2Non-hydrophytes Subtotal (B): 0PERCENT HYDROPHYTES (100A/A+B): 100**HYDROLOGY**☐ RECORDED DATA

Stream, lake, or tidal gage

Identification:

Aerial photography

Identification:

Other

Identification:

☒ NO RECORDED DATA☒ OBSERVATIONS

Depth to Free Water:

Depth to Saturation (including capillary fringe): >20"

Altered Hydrology (explain):

☐ Inundated☐ Saturated in
upper 12"☐ Water Marks☐ Drift Lines☐ Sediment
Deposits☒ Drainage Patterns
within Wetland☐ OTHER (explain):

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: N/A

PLOT: TF4N-(P)-07

DELINEATOR(S): G. METZLER (TEC), M. NARCHI (TEC)

DATE: Nov 9, 2002

Upland

LOCATION:

VEGETATION

STRATUM AND SPECIES	DOMINANCE RATIO	PERCENT DOMINANCE	D O M	NWI STATUS
<u>Tree</u>				
Nyssa sylvatica (DBH: 12)	113/113	100	X	FAC
<u>Shrubs</u>				
Viburnum dentatum var. lucidum	30/42	71	X	FACW-
Lonicera morrowii	10/42	24		FACU
Sambucus canadensis	2/42	5		FACW
<u>Herbs</u>				
Rubus hispidis	5/5			FACW

HYDROPHYTES

NON-HYDROPHYTES

1
OBL 1 1
FACW FAC *OTHER

FAC- FACU UPL

Hydrophytes Subtotal (A): 2Non-hydrophytes Subtotal (B): 0PERCENT HYDROPHYTES (100A/A+B): 100**HYDROLOGY**☐ RECORDED DATA

Stream, lake, or tidal gage

Identification:

Aerial photography

Identification:

Other

Identification:

☒ NO RECORDED DATA☒ OBSERVATIONS

Depth to Free Water:

Depth to Saturation (including capillary fringe): >20"

Altered Hydrology (explain):

☐ Inundated☐ Saturated in
upper 12"☐ Water Marks☐ Drift Lines☐ Sediment
Deposits☐ Drainage Patterns
within Wetland☐ OTHER (explain):

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: N/A

PLOT: TF4N-(P)-08

DELINEATOR(S): G. METZLER (TEC), M. NARCHI (TEC)

DATE: NOV 11, 2002

Upland

LOCATION: 75 FT. FROM ROAD NEAR CULVERT AND CEDAR

VEGETATION

STRATUM AND SPECIES	DOMINANCE RATIO	PERCENT DOMINANCE	D O M	NWI STATUS
<u>Shrubs</u>				
Viburnum dentatum var lucidum	30/47	64	X	FACW-
Rosa multiflora	10/47	21	X	FACU
Sambucus canadensis	5/47	11		FACW
Lonicera morrowii	2/47	4		FACU
<u>Herbs</u>				
Rubus hispidis	2/54	4		FACW
Rumex crispus	40/54	74	X	FACU
Juncus effusus	5/54	9		FACW+
Lonicera morrowii	2/54	4		FACU
Festuca sp. (no fruit)	5/54	9		-

HYDROPHYTES

NON-HYDROPHYTES

 1
 OBL FACW FAC *OTHER

 2
 FAC- FACU UPL

Hydrophytes Subtotal (A): 1Non-hydrophytes Subtotal (B): 2PERCENT HYDROPHYTES (100A/A+B): 33**HYDROLOGY**☐ RECORDED DATA

Stream, lake, or tidal gage

Identification:

Aerial photography

Identification:

Other

Identification:

☒ NO RECORDED DATA☒ OBSERVATIONS

Depth to Free Water:

Depth to Saturation (including capillary fringe): >20"

Altered Hydrology (explain):

☐ Inundated☐ Saturated in
upper 12"☐ Water Marks☐ Drift Lines☐ Sediment
Deposits☐ Drainage Patterns
within Wetland☒ OTHER (explain): ox rhiz

SOIL-Sketch landscape position of this plot. Indicate relative position of other plot(s) and the wetland flag if not on plan.

Vertical Distance between plots: 1'

East

P-8

P-9

Submission of photo of plot is encouraged.

[illegible]

HYDRIC SOIL INDICATOR(S):

REFERENCE(S):

OPTIONAL SOIL DATA

REFERENCE(S):

Taxonomic subgroup:

Soil drainage class:

Depth to active water table:

NTCHS hydric soil criterion:

CONCLUSIONS

YES

No

REMARKS:

Hydric vegetation met?

☐☒

Wetland hydrology met?

☐☐

Hydric soils criterion met?

☒

IS THIS DATAPOINT IN A WETLAND?

☒

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: N/A

PLOT: TF4N-(P)-08

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: N/A

PLOT: TF4N-(P)-09

DELINEATOR(S): G. METZLER (TEC), M. NARCHI (TEC)

DATE: NOV11, 2002

Wetland

LOCATION: 75 FT. FROM ROAD NEAR CULVERT AND CEDAR

VEGETATION

STRATUM AND SPECIES	DOMINANCE RATIO	PERCENT DOMINANCE	D O M	NWI STATUS
<u>Shrubs</u>				
Lonicera morrowii	15/27	55	X	FACU
Viburnum dentatum var. lucidum	10/27	37	X	FACW-
Rosa palustris	2/27	7		OBL
<u>Herbs</u>				
Solidago rugosa	10/52	19		FAC
Juncus effusus	30/52	57	X	FACW+
Rumex crispus	10/52	19		FACU
Rubus hispidis	2/52	4		FACW

HYDROPHYTES

NON-HYDROPHYTES

2
OBL FACW FAC *OTHER

1
FAC- FACU UPL

Hydrophytes Subtotal (A): 2Non-hydrophytes Subtotal (B): 1PERCENT HYDROPHYTES (100A/A+B): 66**HYDROLOGY**☐ RECORDED DATA

Stream, lake, or tidal gage

Identification:

Aerial photography

Identification:

Other

Identification:

☒ NO RECORDED DATA☒ OBSERVATIONS

Depth to Free Water:

Depth to Saturation (including capillary fringe): >18"

Altered Hydrology (explain):

☐ Inundated☐ Saturated in
upper 12"☐ Water Marks☐ Drift Lines☐ Sediment
Deposits☐ Drainage Patterns
within Wetland☒ OTHER (explain): Ruts (6" deep) indicating potentially saturated conditions; appears to be a seepage area.

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: N/A

PLOT: TF4N-(P)-10

DELINEATOR(S): G. METZLER (TEC), M. NARCHI (TEC)

DATE: Nov 11, 2002

Wetland

LOCATION: MIDDLE OF TF4N

VEGETATION

STRATUM AND SPECIES	DOMINANCE RATIO	PERCENT DOMINANCE	D O M	NWI STATUS
<u>Shrubs</u>				
Myrica pensylvanica	2/87	2		FAC
Vaccinium corymbosum	10/87	11		FACW
Viburnum dentatum var. lucidum	75/87	86	X	FACW-
<u>Herbs</u>				
Lonicera morrowii	1/1			FACU

HYDROPHYTES

NON-HYDROPHYTES

 ¹
 OBL FACW FAC *OTHER

 FAC- FACU UPL

Hydrophytes Subtotal (A): 1 Non-hydrophytes Subtotal (B): 0 PERCENT HYDROPHYTES (100A/A+B): 100 **HYDROLOGY**☐ RECORDED DATA

Stream, lake, or tidal gage

Identification:

Aerial photography

Identification:

Other

Identification:

☒ NO RECORDED DATA☒ OBSERVATIONSDepth to Free Water: 15" Depth to Saturation (including capillary fringe): 11"

Altered Hydrology (explain):

☐ Inundated☐ Saturated in
upper 12"☐ Water Marks☐ Drift Lines☐ Sediment
Deposits☒ Drainage Patterns
within Wetland☐ OTHER (explain):

Submission of photo of plot is encouraged. **PLEASE REFER TO APPENDIX B, PHOTO #19**

HYDRIC SOIL INDICATOR(S):	REFERENCE(S):
IIID	NEHSTC (1998)

REFERENCE(S):

CONCLUSIONS

YES NO REMARKS:

Hydric vegetation met?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Wetland hydrology met?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Hydric soils criterion met?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
IS THIS DATAPOINT IN A WETLAND?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: N/A

PLOT: TF4N-(P)-10

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: N/A

PLOT: TF4N-(P)-11

DELINEATOR(S): G. METZLER (TEC), M. NARCHI (TEC)

DATE: Nov 11, 2002

Upland

LOCATION: MIDDLE OF TF4N

VEGETATION

STRATUM AND SPECIES	DOMINANCE RATIO	PERCENT DOMINANCE	D O M	NWI STATUS
<u>Shrubs</u>				
Myrica pensylvanica	5/85	6		FAC
Viburnum dentatum	80/85	94	X	FACW-
<u>Trees</u>				
Prunus serotina (DBH: 14")	154/154	100	X	FACU

HYDROPHYTES

NON-HYDROPHYTES

 1
 OBL FACW FAC *OTHER

 1
 FAC- FACU UPL

Hydrophytes Subtotal (A): 1Non-hydrophytes Subtotal (B): 1PERCENT HYDROPHYTES (100A/A+B): 50**HYDROLOGY**☐ RECORDED DATA

Stream, lake, or tidal gage

Identification:

Aerial photography

Identification:

Other

Identification:

☒ NO RECORDED DATA☒ OBSERVATIONS

Depth to Free Water:

Depth to Saturation (including capillary fringe): >20"

Altered Hydrology (explain):

☐ Inundated☐ Saturated in
upper 12"☐ Water Marks☐ Drift Lines☐ Sediment
Deposits☐ Drainage Patterns
within Wetland☐ OTHER (explain):

SOIL—Sketch landscape position of this plot. Indicate relative position of other plot(s) and the wetland flag if not on plan.

Submission of photo of plot is encouraged. **PLEASE REFER TO APPENDIX B, PHOTO #20**

DEPTH	HORIZON	MATRIX COLOR	REDOXIMORPHIC FEATURES (color, abundance, size, contrast)	COMMENTS
				(USDA texture, nodules, concretions, masses, pore linings, restrictive layers, root distribution, soil water, etc.)
2-0"	0			
0-5"	A	10YR3/3	-	silty loam, granular
5-18"	B	10YR5/4	-	loam, blocky

HYDRIC SOIL INDICATOR(S):

REFERENCE(S):

OPTIONAL SOIL DATA

REFERENCE(S):

Taxonomic subgroup:

Soil drainage class:

Depth to active water table:

NTCHS hydric soil criterion:

CONCLUSIONS

	YES	NO	REMARKS:
Hydric vegetation met?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland hydrology met?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric soils criterion met?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
IS THIS DATAPoint IN A WETLAND?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: N/A

PLOT: TF4N-(P)-11

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: TANK FARM 3

PLOT: LB-(P)-01

DELINEATOR(S): G. METZLER (TEC), M. NARCHI (TEC)

DATE: OCT 17, 2002

Wetland

LOCATION: NW SIDE

VEGETATION

STRATUM AND SPECIES	DOMINANCE RATIO	PERCENT DOMINANCE	D O M	NWI STATUS
<u>Shrubs</u>				
Viburnum dentatum var. lucidum	30/75	40	X	FACW-
Alnus incana	40/75	53	X	FACW
Rosa multiflora	5/75	7		FACU
<u>Vines</u>				
Celastrus orbiculatus	30/30	100	X	FACU
<u>Herbs</u>				
Lonicera morrowii	2/2			FACU
<u>Trees</u>				
Betula alleghaniensis (DBH: 11")	95/95	100	X	FAC

HYDROPHYTES

NON-HYDROPHYTES

 2 1
 OBL FACW FAC *OTHER

 1
 FAC- FACU UPL

Hydrophytes Subtotal (A): 3Non-hydrophytes Subtotal (B): 1PERCENT HYDROPHYTES (100A/A+B): 75**HYDROLOGY**☐ RECORDED DATA

Stream, lake, or tidal gage

Identification:

Aerial photography

Identification:

Other

Identification:

☒ NO RECORDED DATA☒ OBSERVATIONSDepth to Free Water: 17"Depth to Saturation (including capillary fringe): 12"Altered Hydrology (explain): Release of dammed water from Lawton Valley Reservoir☐ Inundated☒ Saturated in
upper 12"☐ Water Marks☐ Drift Lines☐ Sediment
Deposits☐ Drainage Patterns
within Wetland☐ OTHER (explain):

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: TANK FARM 3

PLOT: LB-(P)-02

DELINEATOR(S): G. METZLER (TEC), M. NARCHI (TEC)

DATE: OCT 18, 2002

Upland

LOCATION: NW SIDE

VEGETATION

STRATUM AND SPECIES	DOMINANCE RATIO	PERCENT DOMINANCE	D O M	NWI STATUS
<u>Shrubs</u>				
Alnus incana	25/50	50	X	FACW
Viburnum dentatum var. lucidum	20/50	40	X	FACW-
Rosa multiflora	5/50	10		FACU
<u>Herbs</u>				
Lonicera morrowii	2/2			FACU
<u>Trees</u>				
Alnus incana (DBHs: 30 @ 6")	848/943	90	X	FACW
Betula alleghaniensis (DBH: 11")	95/943	10		FAC

HYDROPHYTES

NON-HYDROPHYTES

 3
 OBL FACW FAC *OTHER

 FAC- FACU UPL

Hydrophytes Subtotal (A): 3Non-hydrophytes Subtotal (B): 0PERCENT HYDROPHYTES (100A/A+B): 100**HYDROLOGY**☐ RECORDED DATA

Stream, lake, or tidal gage

Identification:

Aerial photography

Identification:

Other

Identification:

☒ NO RECORDED DATA☒ OBSERVATIONS

Depth to Free Water:

Depth to Saturation (including capillary fringe): >20"

Altered Hydrology (explain):

☐ Inundated☐ Saturated in
upper 12"☐ Water Marks☐ Drift Lines☐ Sediment
Deposits☐ Drainage Patterns
within Wetland☐ OTHER (explain):

Submission of photo of plot is encouraged. **PLEASE REFER TO APPENDIX B, PHOTO #21**

HYDRIC SOIL INDICATOR(S): REFERENCE(S):

OPTIONAL SOIL DATA Mapped NeB

REFERENCE(S):

Taxonomic subgroup:

Soil drainage class:

Depth to active water table:

NTCHS hydric soil criterion:

CONCLUSIONS

YES NO REMARKS:

Hydric vegetation met? ☒ ☐

Wetland hydrology met? ☐ ☒

Hydric soils criterion met? ☐ ☒

IS THIS DATAPOINT IN A WETLAND? ☐ ☒

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: TANK FARM 3

PLOT: LB-(P)-02

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: TANK FARM 3

PLOT: LB-(P)-03

DELINEATOR(S): G. METZLER (TEC), M. NARCHI (TEC)

DATE: OCT 19, 2002

Upland

LOCATION: ALONG S-SIDE OF LAWTON BROOK AT BEND IN WETLANDS

VEGETATION

STRATUM AND SPECIES	DOMINANCE RATIO	PERCENT DOMINANCE	D O M	NWI STATUS
<u>Trees</u>				
Betula alleghaniensis (DBH: 18")	254	36		FAC
Fagus grandifolia (DBH: 24")	452	64	X	FACU
<u>Shrubs</u>				
Lindera benzoin	30/62	48	X	FACW-
Viburnum dentatum var. lucidum	15/62	24	X	FACW-
Rosa multiflora	15/62	24	X	FACU
Fagus grandifolia	2/62	3		FACU
<u>Herbs</u>				
Dryopteris intermedia	5/5			FACU

HYDROPHYTES

NON-HYDROPHYTES

 2
 OBL FACW FAC *OTHER

 2
 FAC- FACU UPL

Hydrophytes Subtotal (A): 2Non-hydrophytes Subtotal (B): 2PERCENT HYDROPHYTES (100A/A+B): 50**HYDROLOGY**☐ RECORDED DATA

Stream, lake, or tidal gage

Identification:

Aerial photography

Identification:

Other

Identification:

☒ NO RECORDED DATA☒ OBSERVATIONS

Depth to Free Water:

Depth to Saturation (including capillary fringe): >20"

Altered Hydrology (explain):

☐ Inundated☐ Saturated in
upper 12"☐ Water Marks☐ Drift Lines☐ Sediment
Deposits☐ Drainage Patterns
within Wetland☐ OTHER (explain):

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: TANK FARM 3

PLOT: LB-(P)-04

DELINEATOR(S): G. METZLER (TEC), M. NARCHI (TEC)

DATE: OCT 19, 2002

Wetland

LOCATION: ADJACENT TO TF3-03 AND WITHIN WETLANDS

VEGETATION

STRATUM AND SPECIES	DOMINANCE RATIO	PERCENT DOMINANCE	D O M	NWI STATUS
<u>Shrubs</u>				
Lindera benzoin	30/41	73	X	FACW-
Viburnum dentatum var. lucidum	1/41	3		FACW-
Rosa multiflora	5/41	12		FACU
Betula alleghaniensis	5/41	12		
<u>Herbs</u>				
Onoclea sensibilis	1/1			FACW
<u>Trees</u>				
Salix discolor (DBHs: 12,6,4,8)	204/204		X	FACW

HYDROPHYTES

NON-HYDROPHYTES

 2
 OBL FACW FAC *OTHER

 FAC- FACU UPL

Hydrophytes Subtotal (A): 2Non-hydrophytes Subtotal (B): 0PERCENT HYDROPHYTES (100A/A+B): 100**HYDROLOGY**☐ RECORDED DATA

Stream, lake, or tidal gage

Identification:

Aerial photography

Identification:

Other

Identification:

☒ NO RECORDED DATA☒ OBSERVATIONS

Depth to Free Water:

Depth to Saturation (including capillary fringe): 0"

Altered Hydrology (explain):

☐ Inundated☒ Saturated in
upper 12"☐ Water Marks☐ Drift Lines☐ Sediment
Deposits☒ Drainage Patterns
within Wetland☒ OTHER (explain): water-stained leaves

Submission of photo of plot is encouraged. **PLEASE REFER TO APPENDIX B, PHOTO #23**

HYDRIC SOIL INDICATOR(S):	REFERENCE(S):
IIID	NEHSTC (1998)

REFERENCE(S):

CONCLUSIONS

YES NO REMARKS:

Hydric vegetation met?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Wetland hydrology met?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Hydric soils criterion met?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
IS THIS DATAPOINT IN A WETLAND?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION TRANSECT: TANK FARM 3 PLOT: LB-(P)-04

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: N/A

PLOT: CP-(P)-01

DELINEATOR(S): G. METZLER (TEC), M. NARCHI (TEC)

DATE: Nov 14, 2002

Upland

LOCATION: IN MOWED POWERLINE

VEGETATION

STRATUM AND SPECIES	DOMINANCE RATIO	PERCENT DOMINANCE	D O M	NWI STATUS
<u>Shrubs</u>				
Rhus typhina	10/10	100	X	-
<u>Vines</u>				
Celastrus orbiculatus (5 stems)	5/5	100	X	FACU
<u>Herbs</u>				
Euthamia tenuifolia				FACU
Solidago rugosa	5/70	7		FAC
Juncus effusus	25/70	36	X	FACW+
Panicum sp. (no fruit)	30/70	43	X	-
Rubus hispidis	10/70	14		FACW

HYDROPHYTES

NON-HYDROPHYTES

 1
 OBL FACW FAC *OTHER

 1
 FAC- FACU UPL

Hydrophytes Subtotal (A): 1Non-hydrophytes Subtotal (B): 1PERCENT HYDROPHYTES (100A/A+B): 50**HYDROLOGY**☐ RECORDED DATA

Stream, lake, or tidal gage

Identification:

Aerial photography

Identification:

Other

Identification:

☒ NO RECORDED DATA☒ OBSERVATIONSDepth to Free Water: 11"Depth to Saturation (including capillary fringe): 11", heavy rain previous day

Altered Hydrology (explain):

☐ Inundated☐ Saturated in
upper 12"☐ Water Marks☐ Drift Lines☐ Sediment
Deposits☐ Drainage Patterns
within Wetland☐ OTHER (explain):

Submission of photo of plot is encouraged. **PLEASE REFER TO APPENDIX B, PHOTO #24**

HYDRIC SOIL INDICATOR(S): REFERENCE(S):

OPTIONAL SOIL DATA Mapped MmA

REFERENCE(S):

Taxonomic subgroup:

Soil drainage class:

Depth to active water table:

NTCHS hydric soil criterion:

CONCLUSIONS

YES NO REMARKS:

Hydric vegetation met?

☐ ☒

Wetland hydrology met?

□ □

Shallow saturated soils due to heavy rain

Hydric soils criterion met?

☐ ☒

IS THIS DATAPOINT IN A WETLAND?

☐ ☒

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: N/A

PLOT: CP(P)-01

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: N/A

PLOT: CP-(P)-02

DELINEATOR(S): G. METZLER (TEC), M. NARCHI (TEC)

DATE: NOV 14, 2002

Wetland

LOCATION: IN MOWED POWERLINE

VEGETATION

STRATUM AND SPECIES	DOMINANCE RATIO	PERCENT DOMINANCE	D O M	NWI STATUS
<u>Herbs</u>				
Juncus effusus	30/85	35	X	FACW+
Panicum sp. (no fruit)	30/85	35	X	-
Rubus hispidis	20/85	23	X	FACW
Dactylis glomerata	5/85	6		FACU
Note: Plot in mowed powerline. Vaccinium corymbosum 10%, Myrica pensylvanica 15% at edge of powerline.				

HYDROPHYTES

NON-HYDROPHYTES

 2
 OBL FACW FAC *OTHER

 FAC- FACU UPL

Hydrophytes Subtotal (A): 2Non-hydrophytes Subtotal (B): 0PERCENT HYDROPHYTES (100A/A+B): 100**HYDROLOGY**☐ RECORDED DATA

Stream, lake, or tidal gage

Identification:

Aerial photography

Identification:

Other

Identification:

☒ NO RECORDED DATA☒ OBSERVATIONSDepth to Free Water: 11"Depth to Saturation (including capillary fringe): 9", heavy rain previous day

Altered Hydrology (explain):

☐ Inundated☐ Saturated in
upper 12"☐ Water Marks☐ Drift Lines☐ Sediment
Deposits☐ Drainage Patterns
within Wetland☒ OTHER (explain): ox rhiz in 0-5". shallow depressions, tire ruts, appears to be a seepage area.

Submission of photo of plot is encouraged. **PLEASE REFER TO APPENDIX B, PHOTO #25**

HYDRIC SOIL INDICATOR(S):	REFERENCE(S):
NEHSTC (1998) indicators not quite met, however soils appear to have been somewhat disturbed. USACOW (1987) criteria met.	

OPTIONAL SOIL DATA Mapped MmA

REFERENCE(S):

Taxonomic subgroup:

Soil drainage class:

Depth to active water table:

NTCHS hydric soil criterion:

CONCLUSIONS

	YES	NO	REMARKS:
Hydric vegetation met?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland hydrology met?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric soils criterion met?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See above.
IS THIS DATAPOINT IN A WETLAND?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

PROJECT TITLE: NAVSTA NEWPORT WETLAND DELINEATION

TRANSECT: N/A

PLOT: CP-(P)-02

APPENDIX B
SITE PHOTOGRAPHS

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Photo #1. GB-(P)-01. Wetland; frame of reference is viewing south from plot. Captured on Nov. 13, 2002.



Photo #2. GB-(P)-02. Upland; frame of reference is viewing north from plot. Captured on Nov. 14, 2002.



Photo #3. GB-(P)-03. Wetlands; frame of reference is viewing north-northwest from plot.
Captured on Nov. 14, 2002.



Photo #4. GB-(P)-04. Upland; frame of reference is viewing west-southwest from plot.
Captured on Nov. 14, 2002.



Photo #5. GB-(P)-05. .Wetland, frame of reference is viewing east and from GBe-WET-06. Captured on Nov.14, 2002.



Photo #6. GB-(P)-06. Upland; frame of reference is viewing south at plot. Captured on Nov. 14, 2002.



Photo #7. TF5c-(P)-01 and -02. Wetland (no upland photo taken); frame of reference is viewing into wetlands from boundary at plot (foreground). Captured on Oct. 19, 2002.



Photo #8. TF5c-(P)-03. Wetland; frame of reference is viewing northwest from TF5c-CM-02. Captured on Oct. 19, 2002.



Photo #9. TF5c-(P)-04 and -05. Wetlands (no upland photo taken); frame of reference is viewing north from TF5c-EC2-04. Captured on Oct. 19, 2002.



Photo #10. TF4c-(P)-01 and -02. Wetland (no upland photo taken); frame of reference is viewing east. Captured on Nov. 14, 2002.



Photo #11. TF4c-(P)-03 and -04. Wetland (no upland photo taken); frame of reference is viewing south-south west from TF4c-WET-29. Captured on Nov. 14, 2002.



Photo #12. TF4c-(P)-05. Wetland; frame of reference is viewing east-northeast from TF4c-WET-13. Captured on Nov. 14, 2002.



Photo #13. TF4n-(P)-02. Upland; frame of reference is viewing south from plot. Captured on Nov. 12, 2002.



Photo #14. TF4n-(P)-03. Wetland; frame of reference is viewing north from plot. Captured on Nov. 12, 2002.



Photo #15. TF4n-(P)-04. Wetland; frame of reference is viewing west from plot. Captured on Nov. 12, 2002.



Photo #16. TF4n-(P)-05. Upland; frame of reference is viewing east from plot. Captured on Nov. 12, 2002.



Photo #17. TF4n-(P)-06. Wetland; frame of reference is viewing north-northeast from plot. Captured on Nov. 12, 2002.



Photo #18. TF4n-(P)-07. Upland; frame of reference is viewing south-southwest from plot. Captured on Nov. 12, 2002.



Photo #19. TF4n-(P)-10. Wetland; frame of reference is viewing south from plot. Captured on Nov. 12, 2002.



Photo #20. TF4n-(P)-11. Upland; frame of reference is viewing northwest from plot. Captured on Nov. 12, 2002.



Photo #21. LB-(P)-01 and -02. Wetland (no upland photo taken); frame of reference is viewing east-southeast from plot. Captured on Nov. 13, 2002.



Photo #22. LB-(P)-03. Upland; frame of reference is viewing southwest from plot. Captured on Nov. 13, 2002.



Photo #23. LB-(P)-04. Wetland; frame of reference is viewing north from plot. Captured on Nov. 13, 2002.



Photo #24. CP-(P)-01. Upland; frame of reference is viewing north-northeast from CP-WET1-10. Captured on Nov. 14, 2002.



Photo #25. CP-(P)-02. Wetland; frame of reference is viewing south-southwest from plot(foreground). Captured on Nov. 14, 2002.

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APPENDIX C
DRAINAGE WIDTHS

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**APPENDIX C. AVERAGE WIDTHS FOR WATERS OF THE U.S.,
TANK FARMS 3, 4, AND 5, NAVSTA NEWPORT, RI**

WATERS ID	SEGMENT REFERENCE	AVERAGE WIDTH	FIGURE #
GB-WATER-1	GB-WUS1-01 to GB-WUS1-06	6 feet	Fig. 4-1
	GB-WUS1-07 to GB-WUS1-13	4 feet	Fig. 4-1
	GB-WUS1-13 to GB-WUS1-17	5 feet	Fig. 4-1
	GB-WUS1-18 to GB-WUS1-23	7 feet	Fig. 4-1
GB-WATER-2	GB-WUS2-01 to GB-WUS2-02	3 feet	Fig. 4-1
	GB-WUS2-03 to GB-WUS-04	3 feet	Fig. 4-1
GB-WATER-3	GB-WUS3-01 to GB-WUS3-07	3 feet	Fig. 4-1
NB-WATER-1	NB-WUS1-01 to NB-WUS1-11	8 feet	Fig. 4-2
	NB-WUS1-11 to NB-WUS1-23	11 feet	Fig. 4-2
NB-WATER-2	NB-WUS2-01 to NB-WUS2-05	4 feet	Fig. 4-2
NB-WATER-3	NB-WUS3-01 to NB-WUS3-21	4 feet	Fig. 4-2, 4-3
NB-WATER-4	NB-WUS4-01 to NB-WUS4-04	3 feet	Fig. 4-2
TF4n-WATER-1	TF4n-WUS1-01 to TF4n-WUS2-05	3 feet	Fig. 4-4
TF4n-WATER-2	Estimated alignment, no data points ¹	2 feet	Fig. 4-4
LB-WATER-1 ²	N/A	N/A	Fig. 4-5
Notes: ¹ An estimate was made in the field of its approximate distance from Defense Highway and its point of intersection with the road. Base layer for road network was used as reference to create this alignment. ² Please refer to Section 4.2.6 and note on figure for a explanation of Lawton Brook.			